

10- control gate
 11- floating gate
 22- shallow junction
 33- deep junction
 34- lightly doped n-
 44- p+ implant
 14- ONO
 15- tunnel oxide
 16- p-substrate
 48- edge erase
 49- CHE program

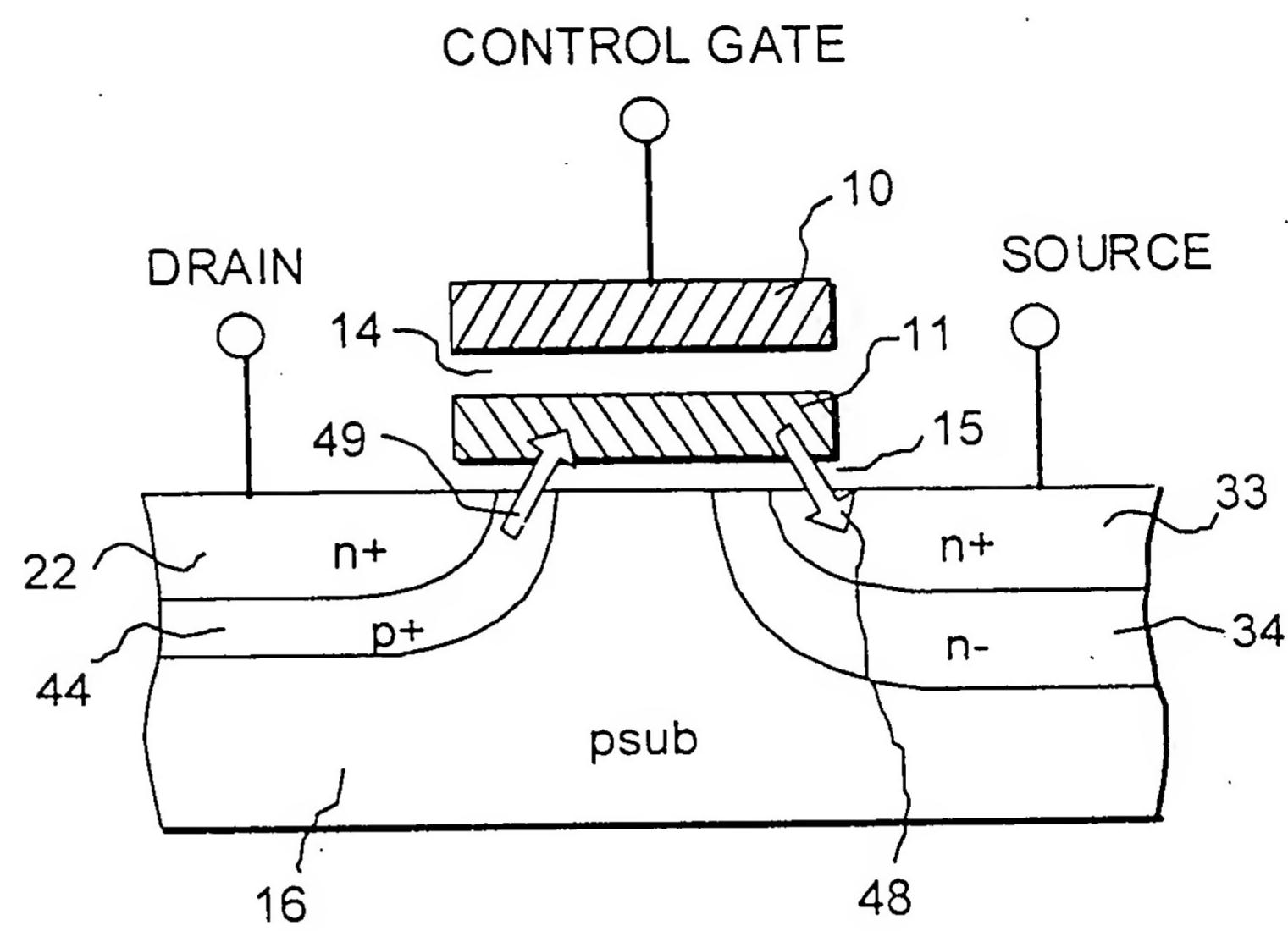


FIG.1 (Prior Art)

10- control gate
 11- floating gate
 22- shallow junction
 13- shallow junction
 44- p+ implant
 14- ONO
 15- tunnel oxide
 16- p-substrate
 38- channel erase
 49- CHE program

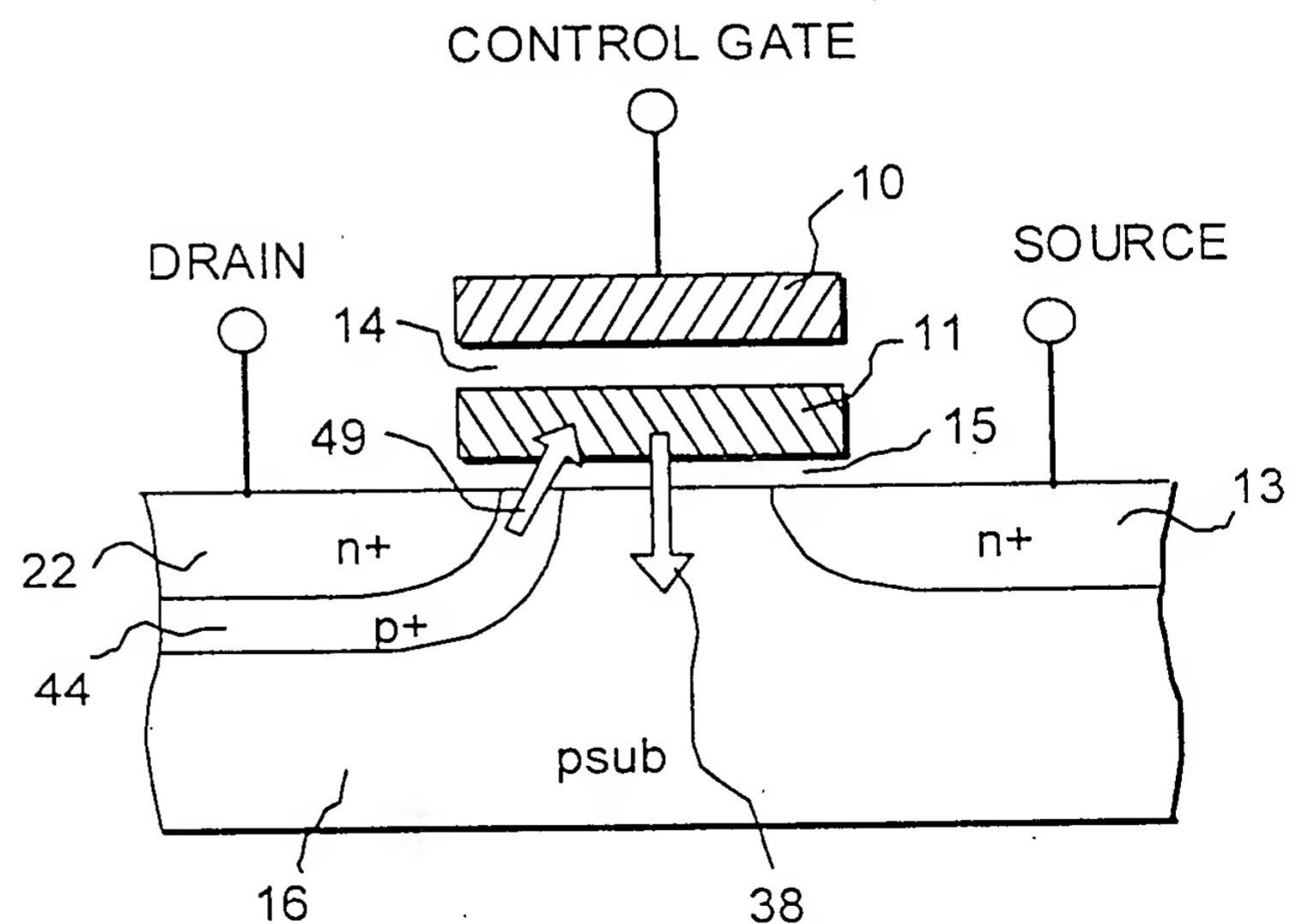


FIG.2(Prior Art)

- 10- control gate
- 11- floating gate
- 12- deep junction
- 20- lightly doped n-
- 13- shallow junction
- 14- ONO
- 15- tunnel oxide
- 16- p-substrate
- 17- p+ implant
- 18- channel erase
- 19- edge program

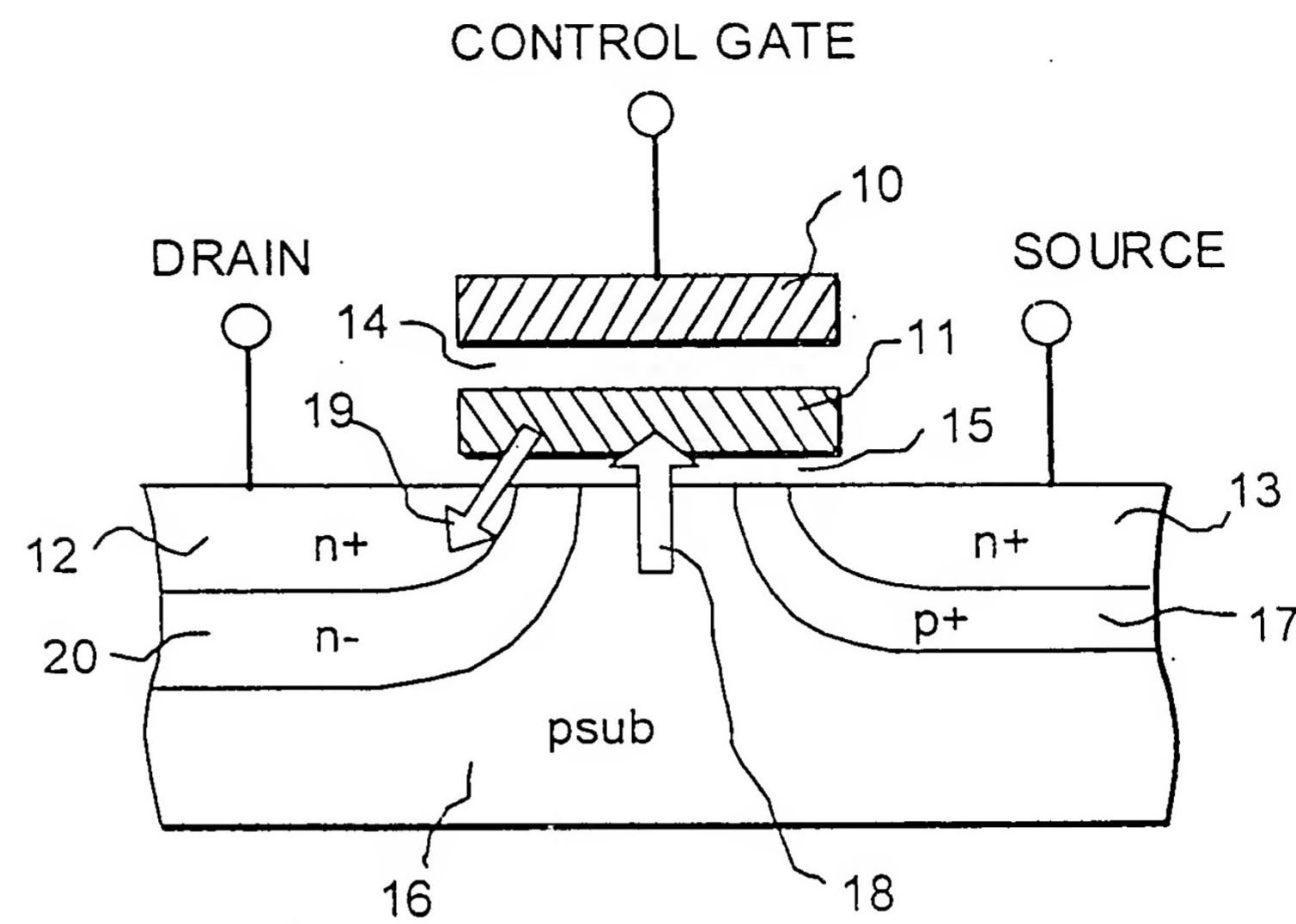


FIG.3 (Prior Art)

- 10- control gate
- 11- floating gate
- 22- shallow junction
- 13- shallow junction
- 14- ONO
- 15- tunnel oxide
- 16- p-substrate
- 27- channel erase
- 28- channel program

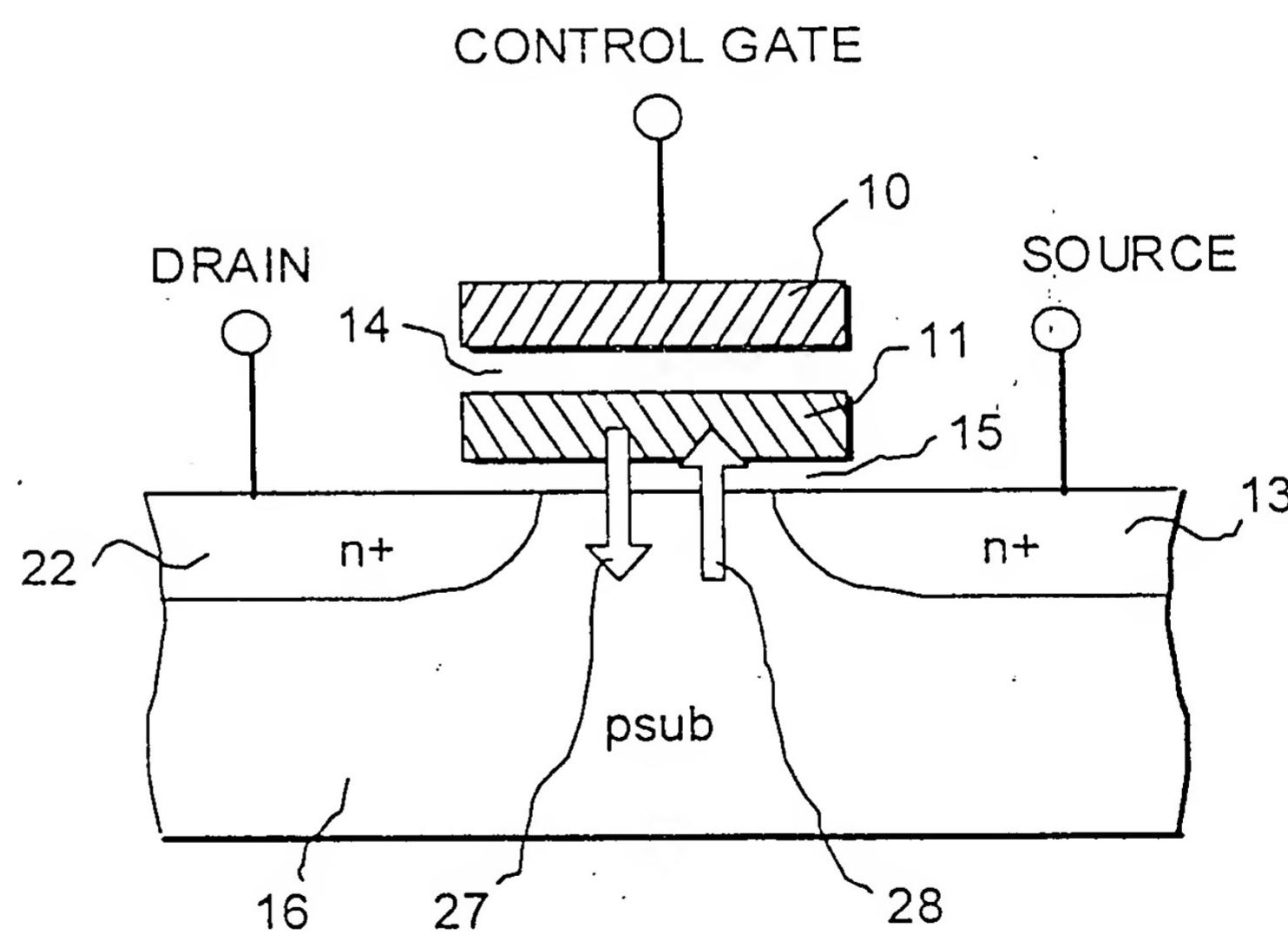
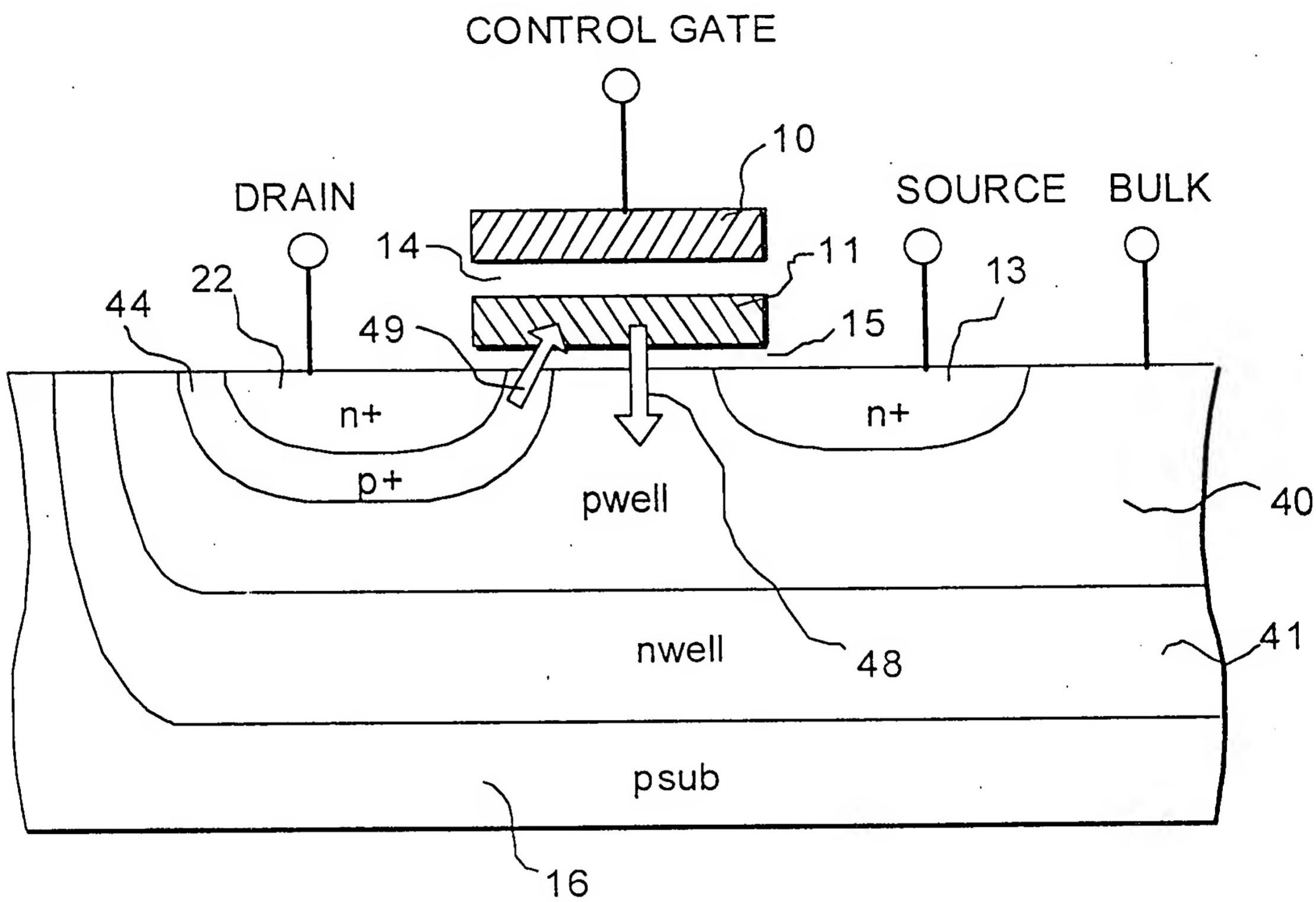


FIG.4 (Prior Art)

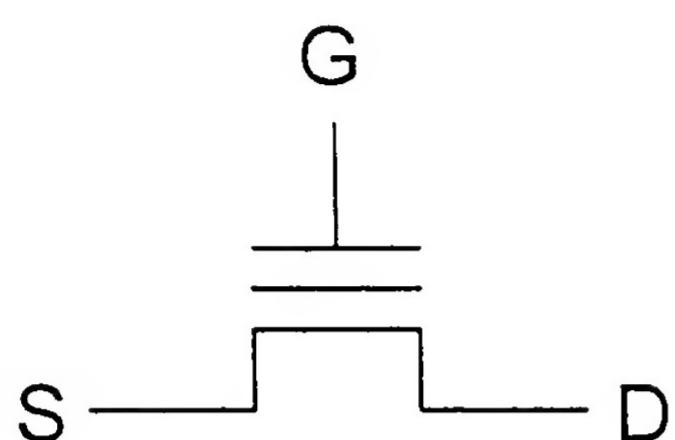


- 10- control gate
- 11- floating gate
- 22- shallow junction
- 13- shallow junction
- 44- p+ implant
- 14- ONO
- 15- tunnel oxide
- 38- channel erase
- 49- CHE program
- 40- p-well
- 41- deep n-well
- 16- p-substrate

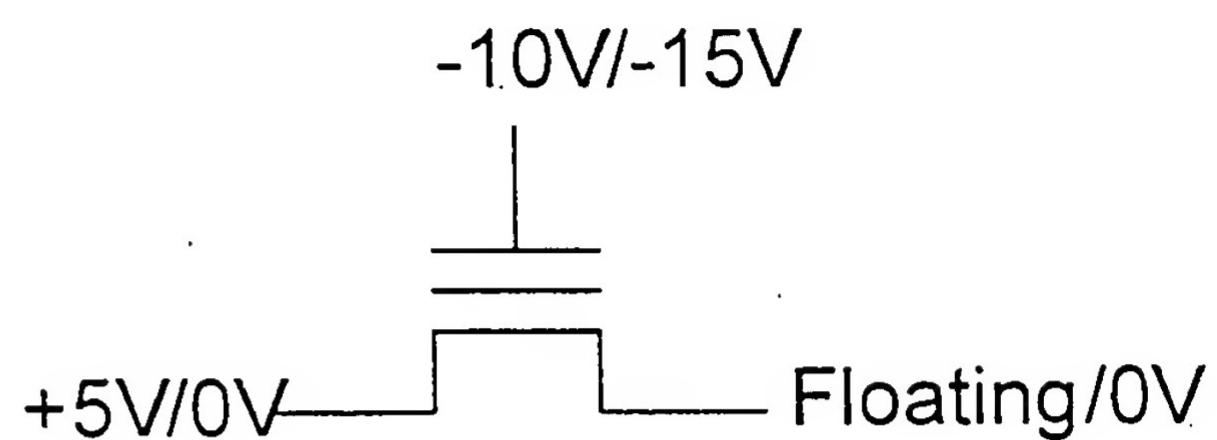
FIG.5 (Prior Art)

ETOX NOR Cell on a P-substrate

a)



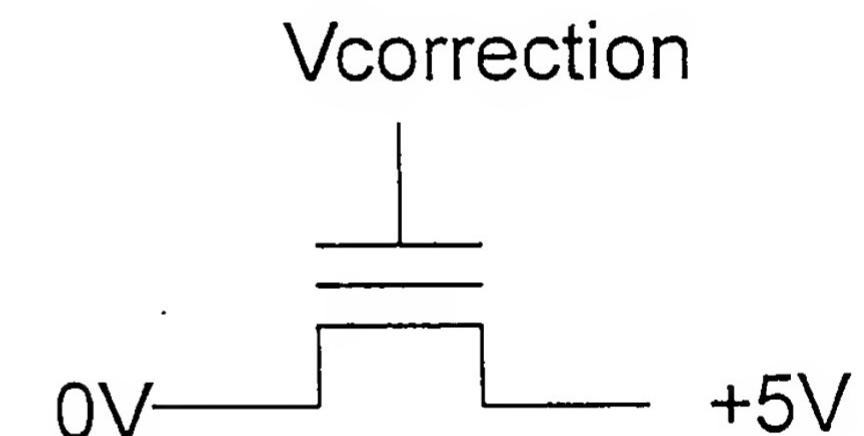
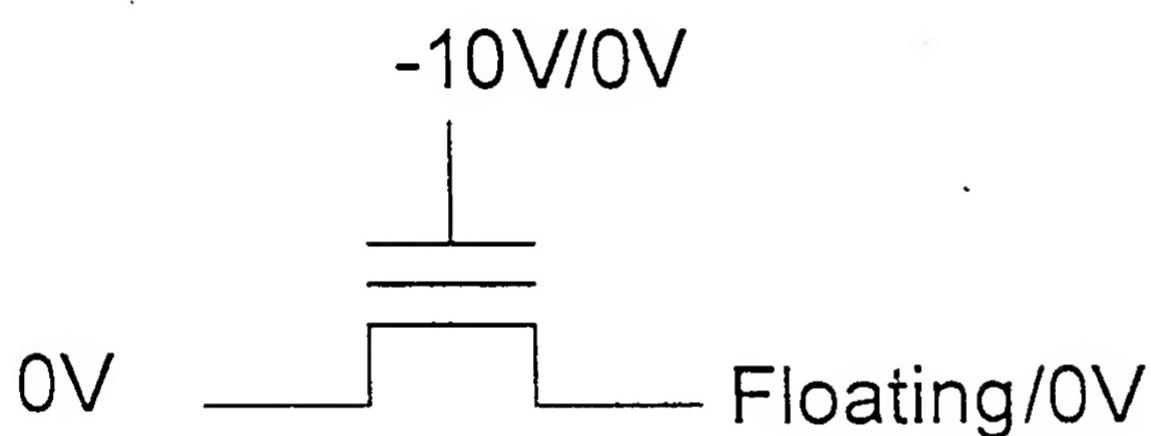
b) ERASE



c)

ERASE INHIBIT

d) CORRECTION



e)

PROGRAM

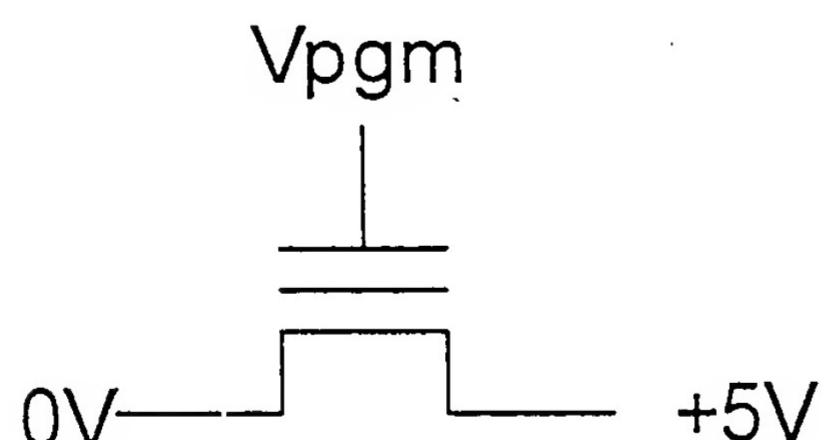
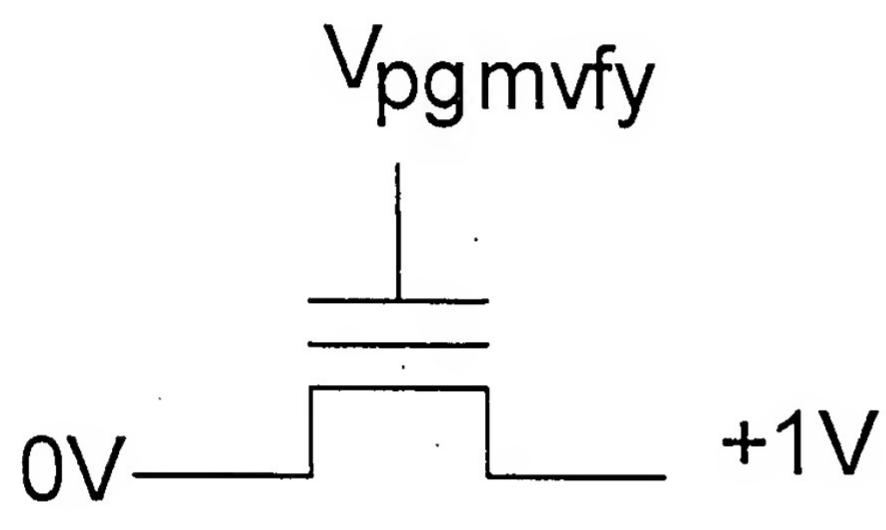


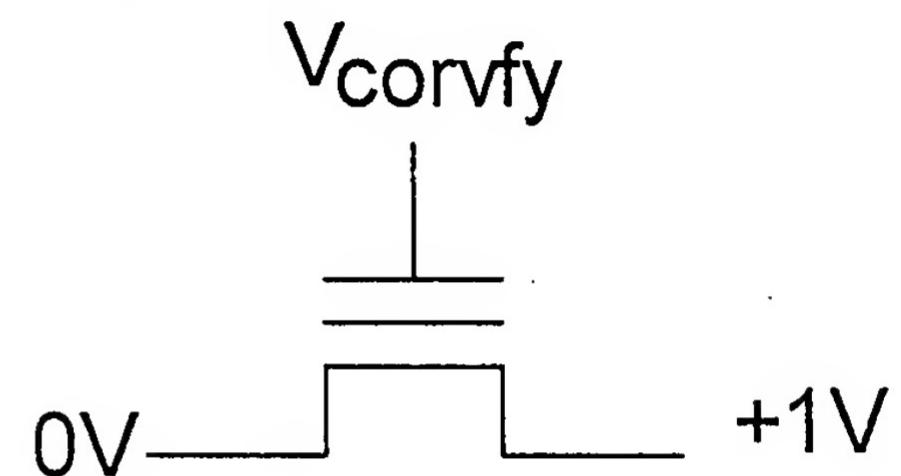
FIG. 6

ETOX NOR Cell on a P-substrate

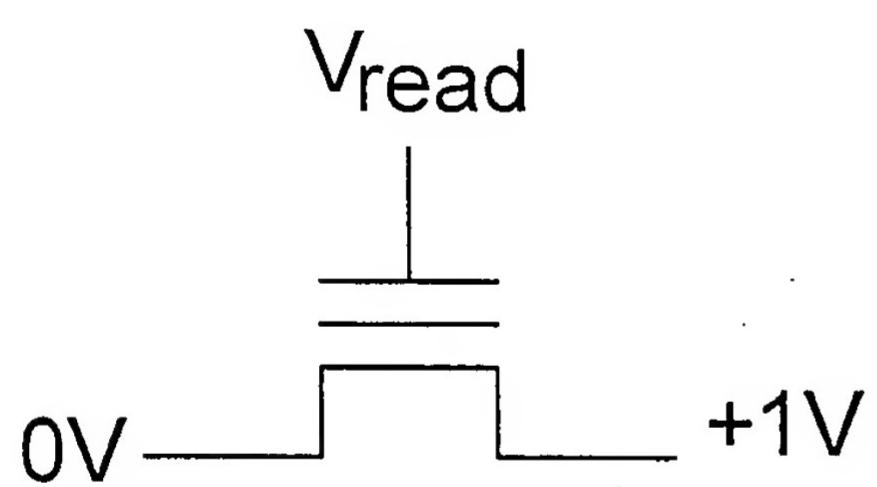
a) PROGRAM VERIFY



b) CORRECTION
VERIFY



c) READ



d) ERASE VERIFY

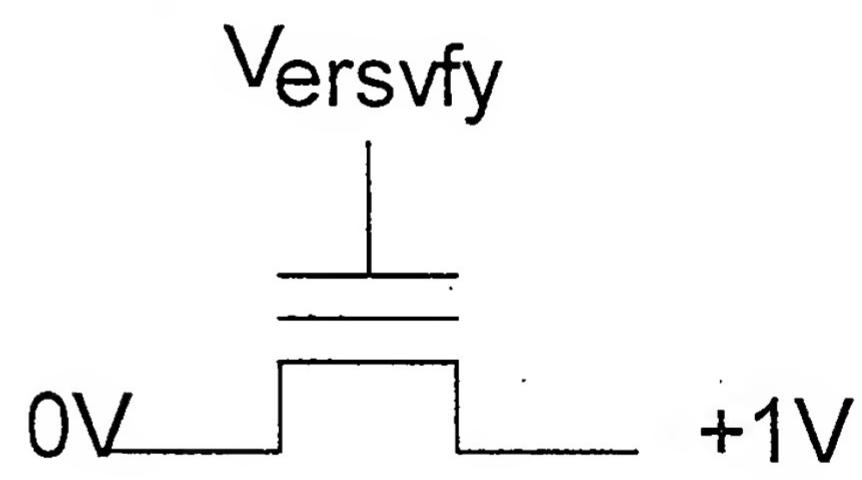


FIG. 7

ETOX NOR Cell on a P-substrate

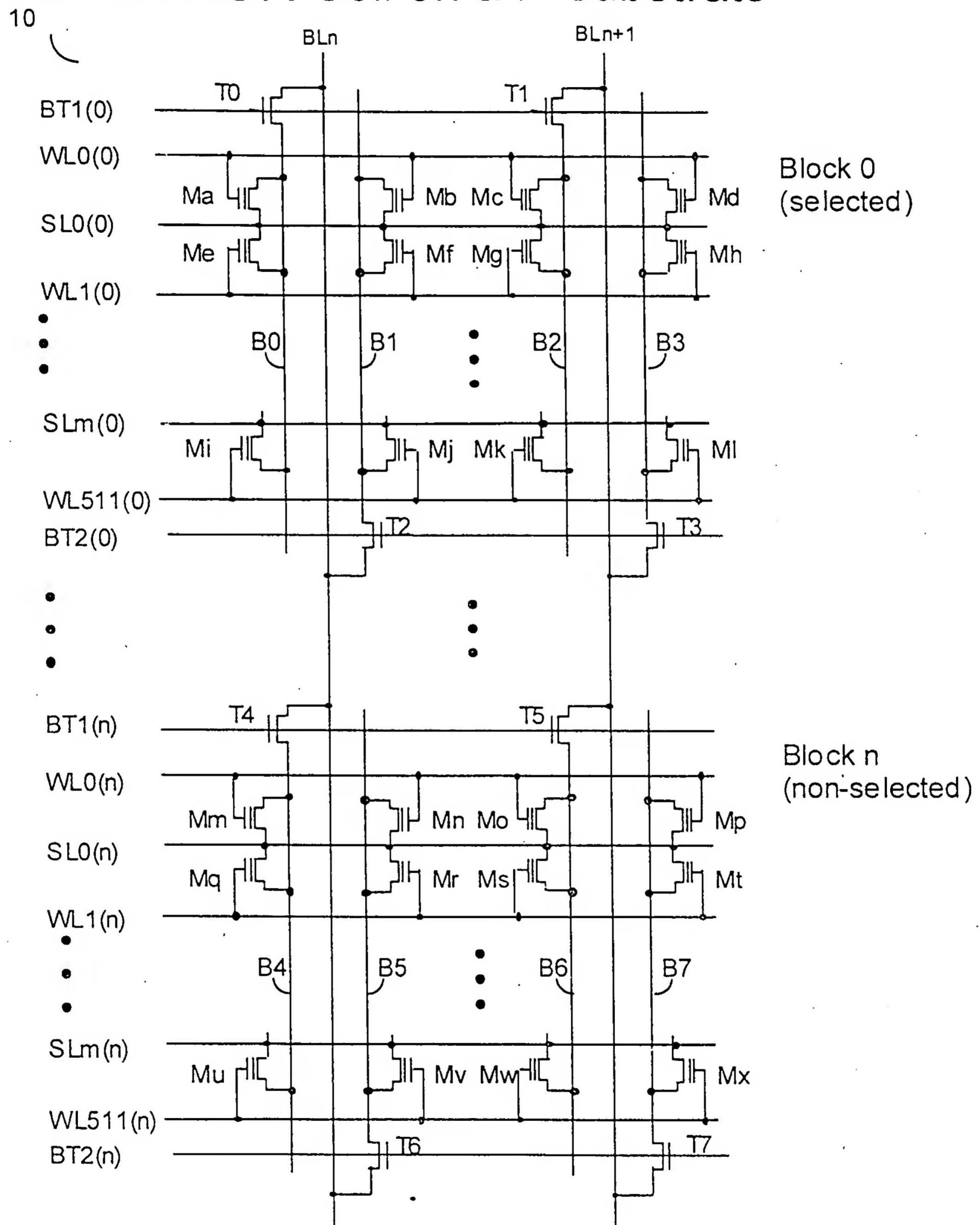


FIG.8

Block Erase Operations

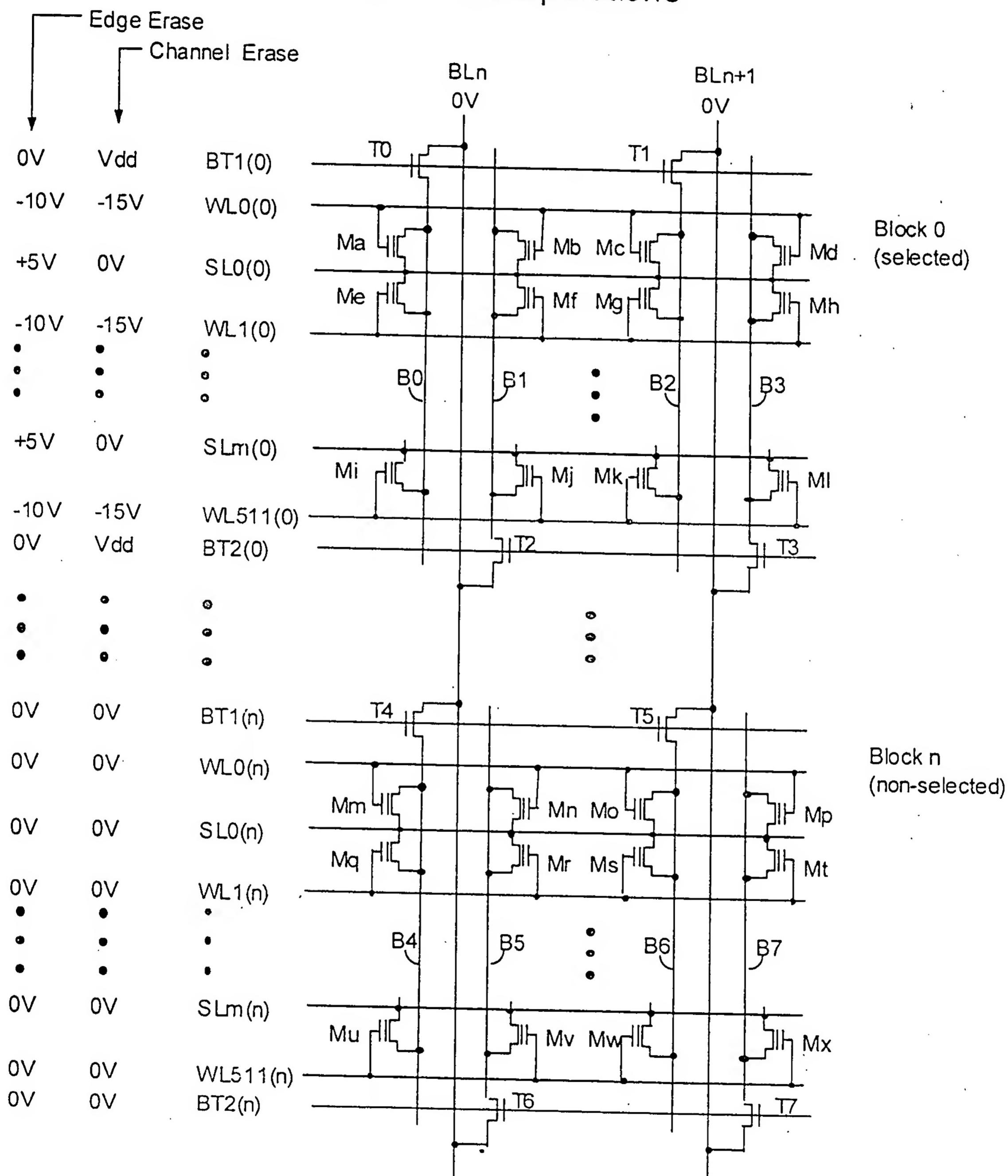


FIG. 9

Block Erase Verify

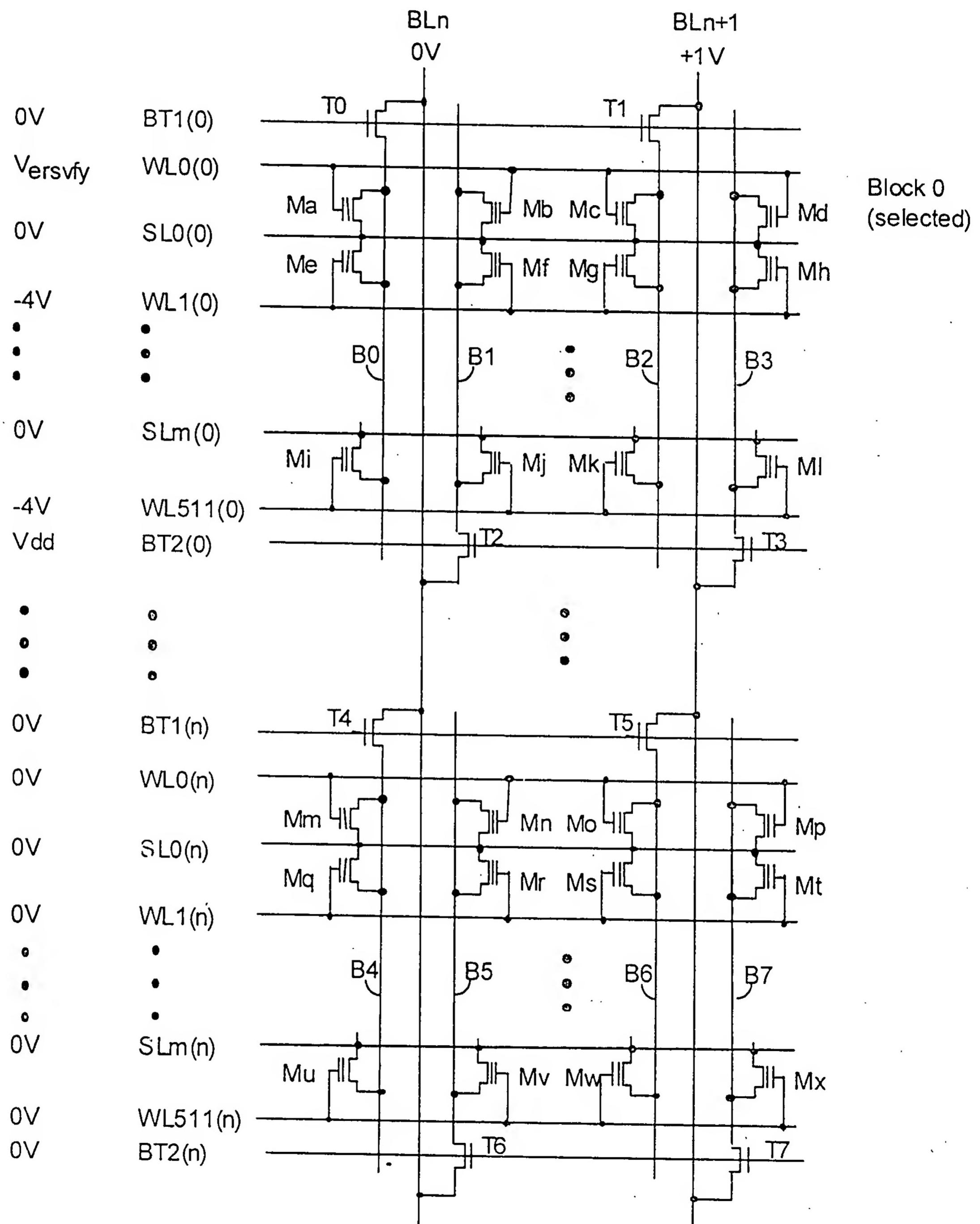


FIG.10

Erase Inhibit

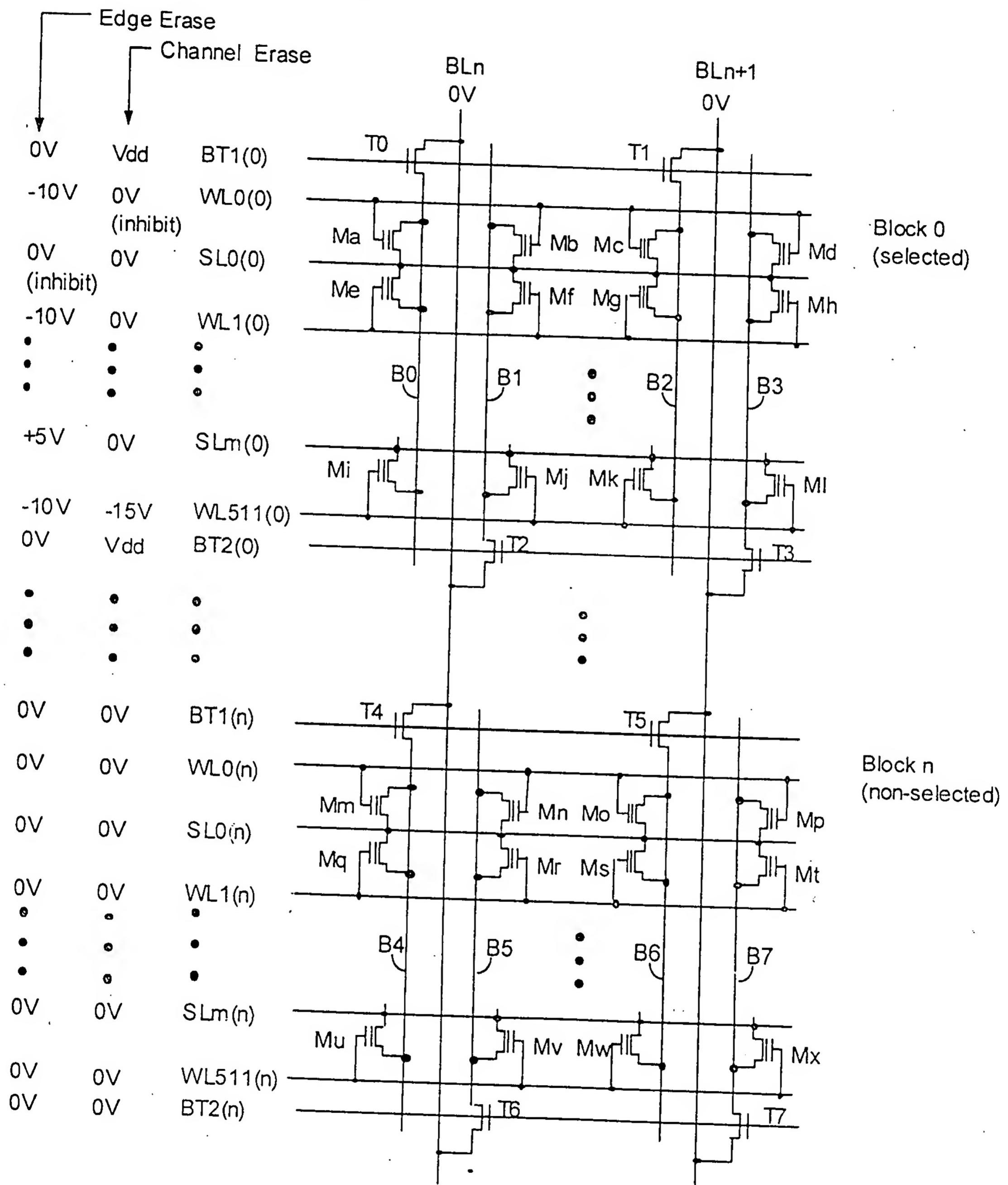


FIG. 11

Correction Operations

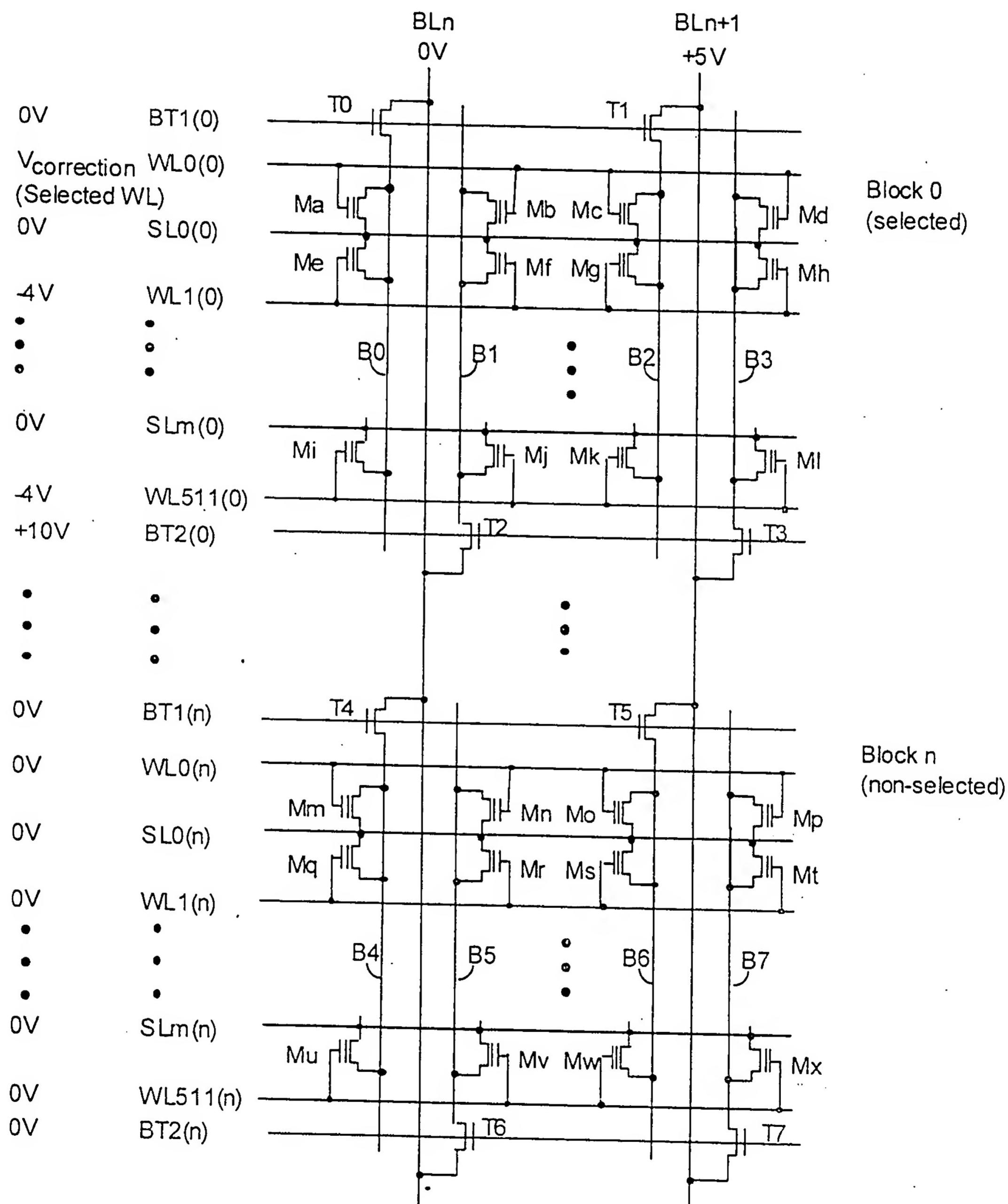


FIG. 12

Correction Verify Operations

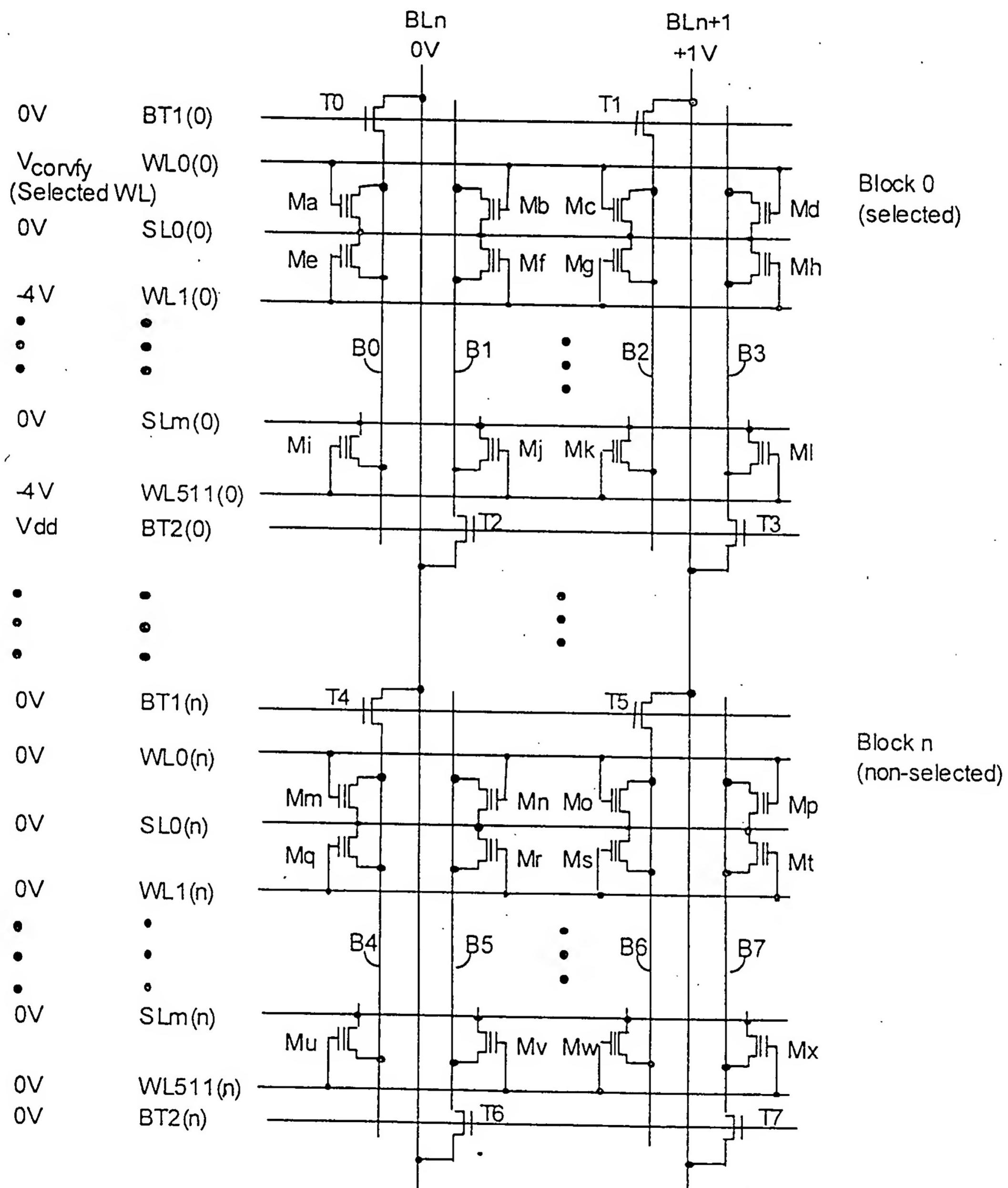


FIG. 13

Program Operations

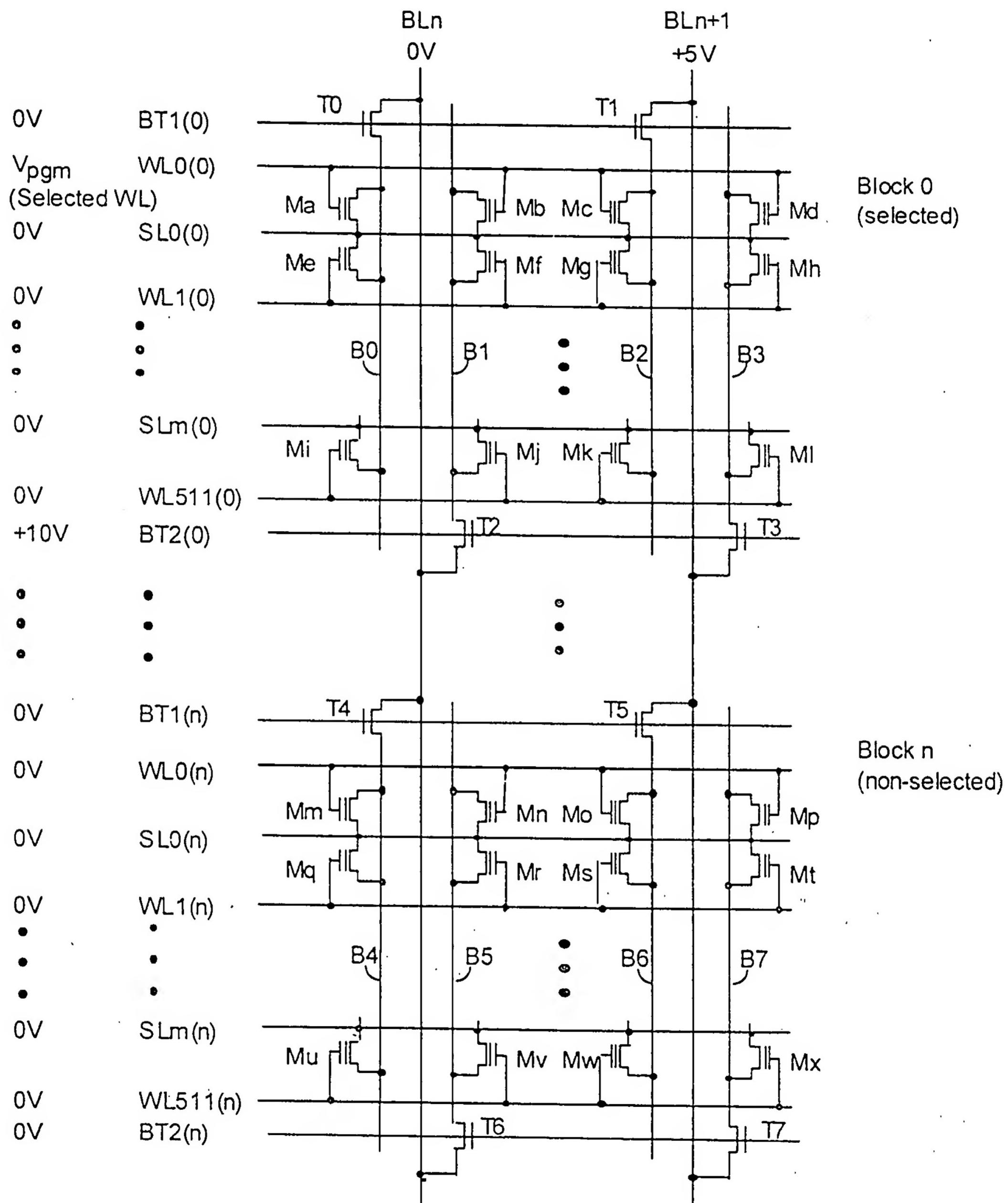


FIG. 14

Program Verify Operations

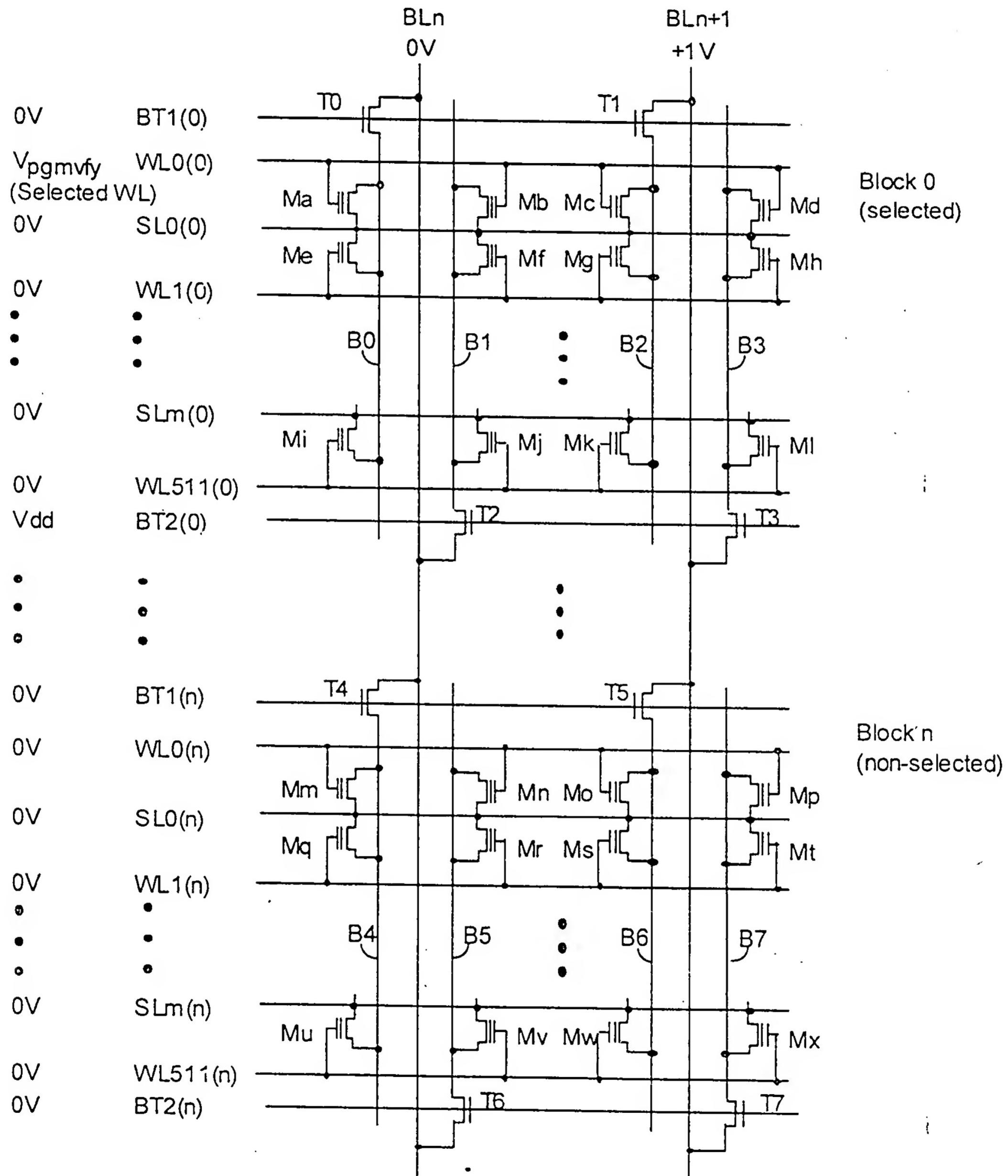


FIG. 15

Cell on a P-substrate for this invention

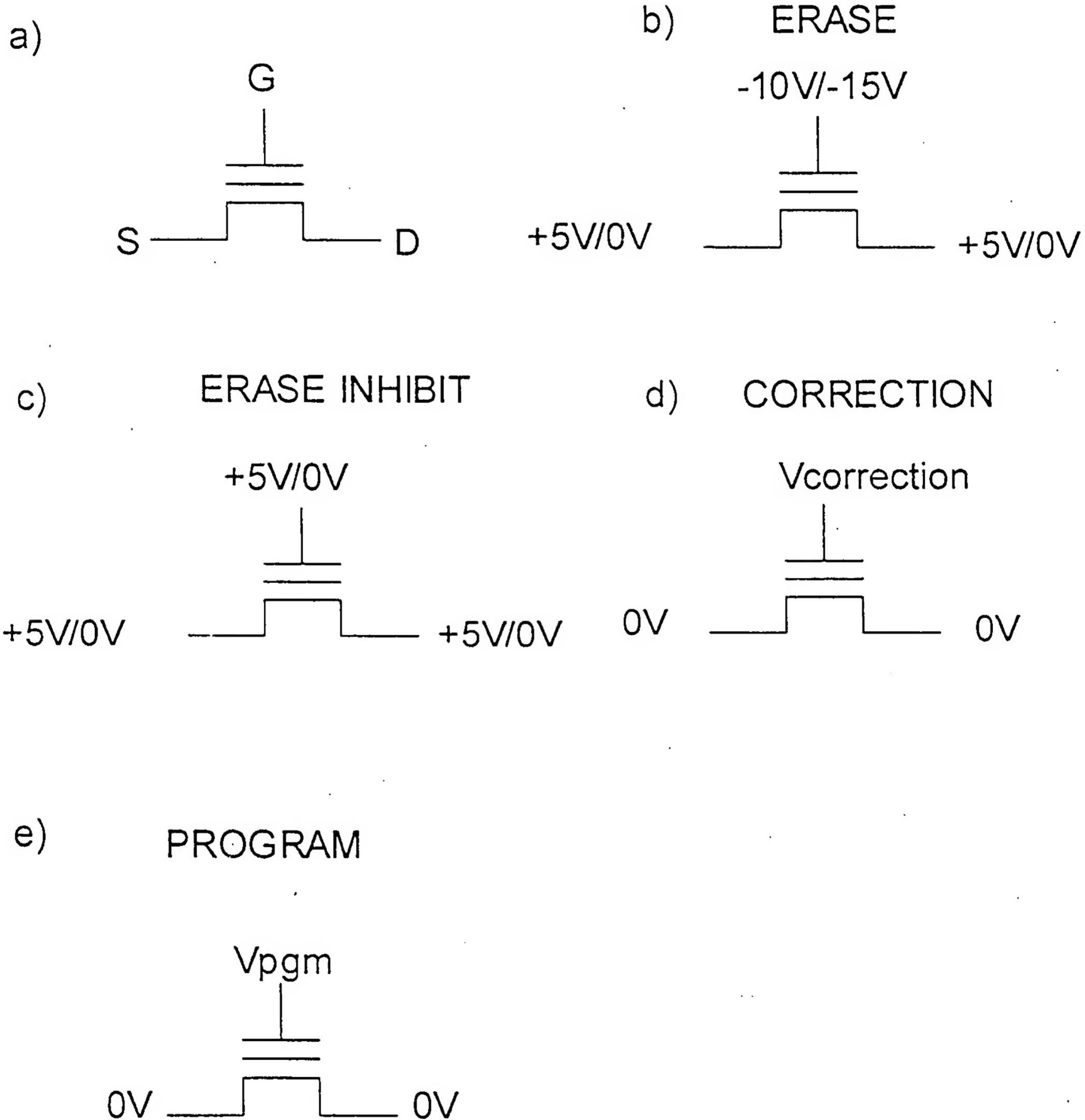


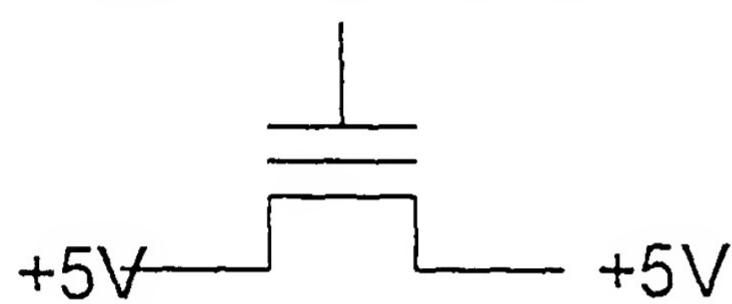
FIG. 16

Cell on a P-substrate for this invention

a) PROGRAM/CORRECTION
INHIBIT

(In same WL, in selected Block)

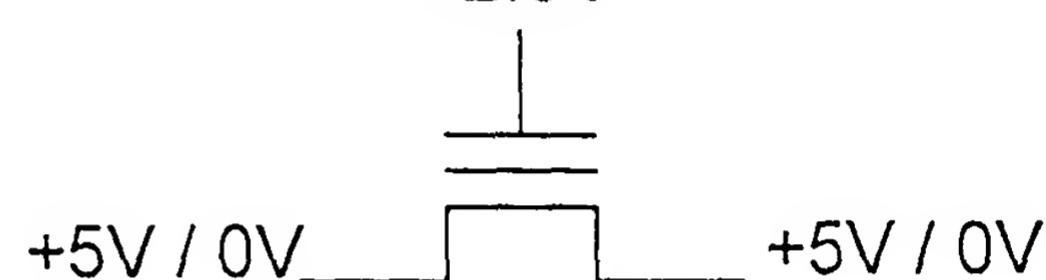
$V_{pgm}/V_{correction}$



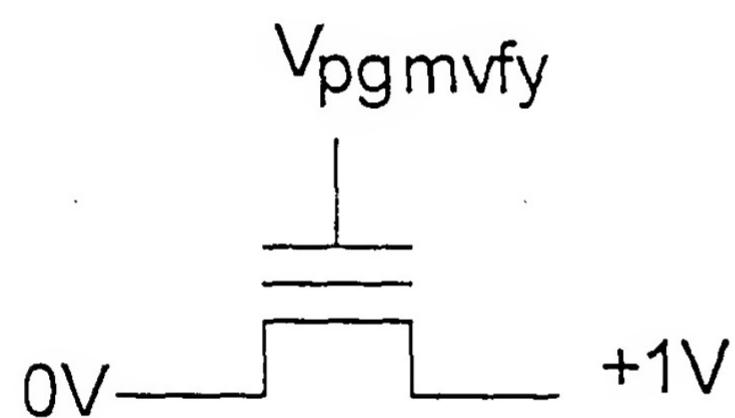
b) PROGRAM/CORRECTION
INHIBIT

(In different WL,
in selected Block)

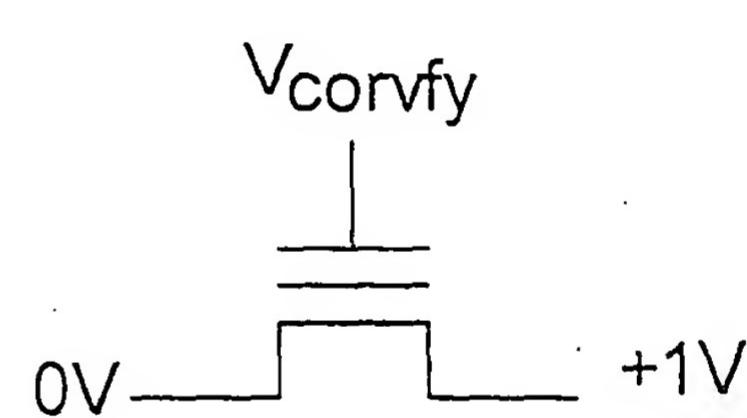
+2.5V



c) PROGRAM VERIFY

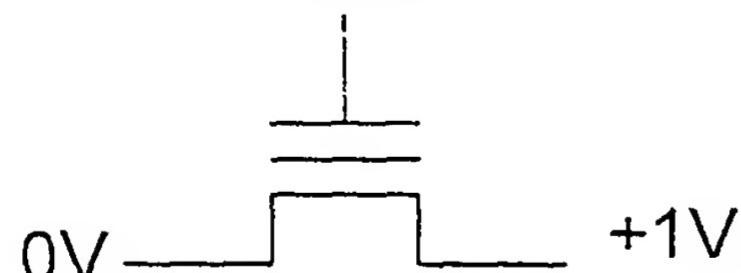


d) CORRECTION VERIFY



e) READ

V_{read}



f) ERASE VERIFY

V_{ersvfy}

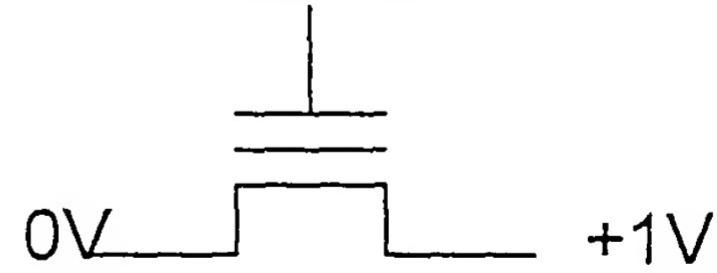


FIG. 17

AND Array on a P-substrate

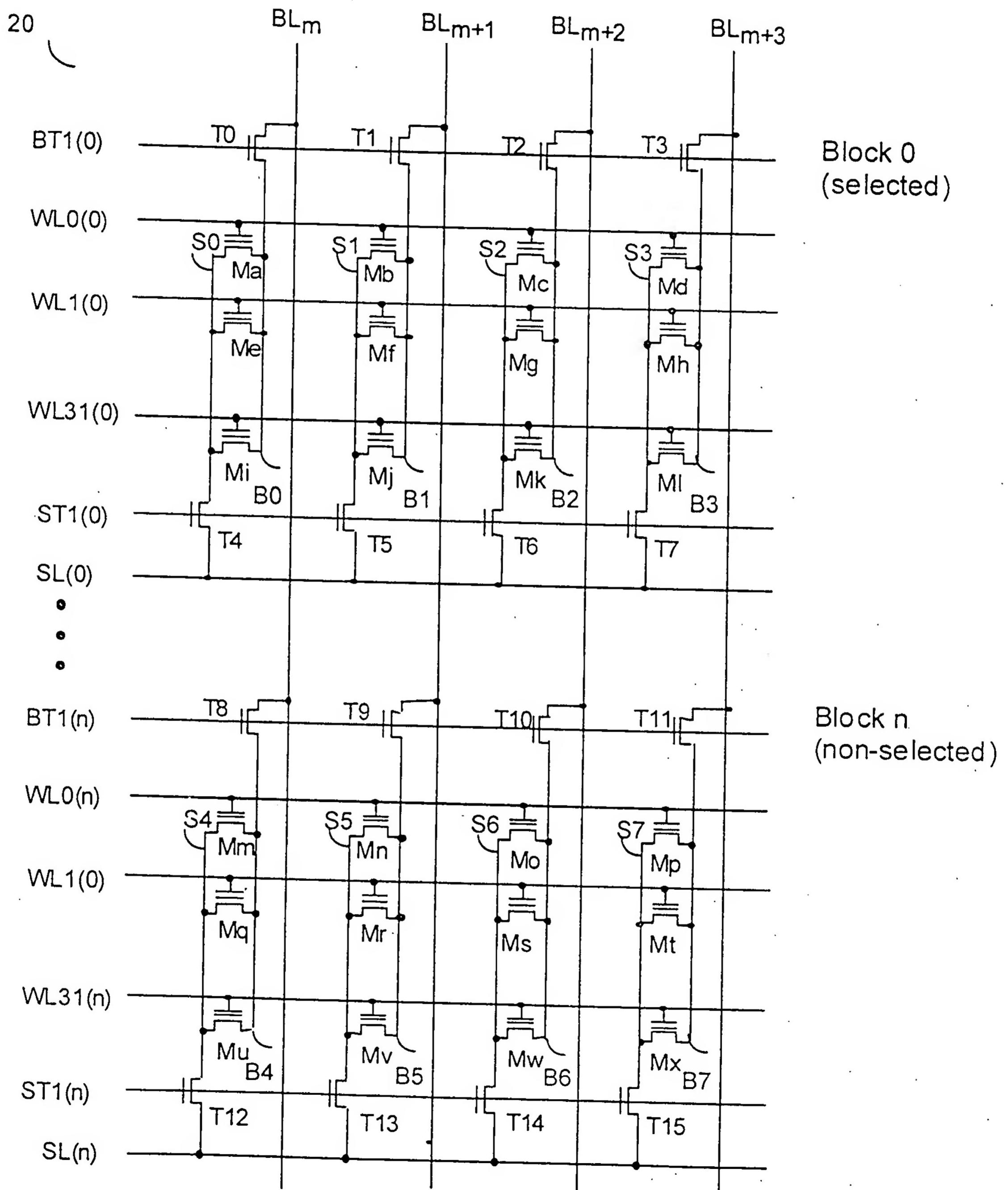


FIG. 18

Random Page Erase Operation

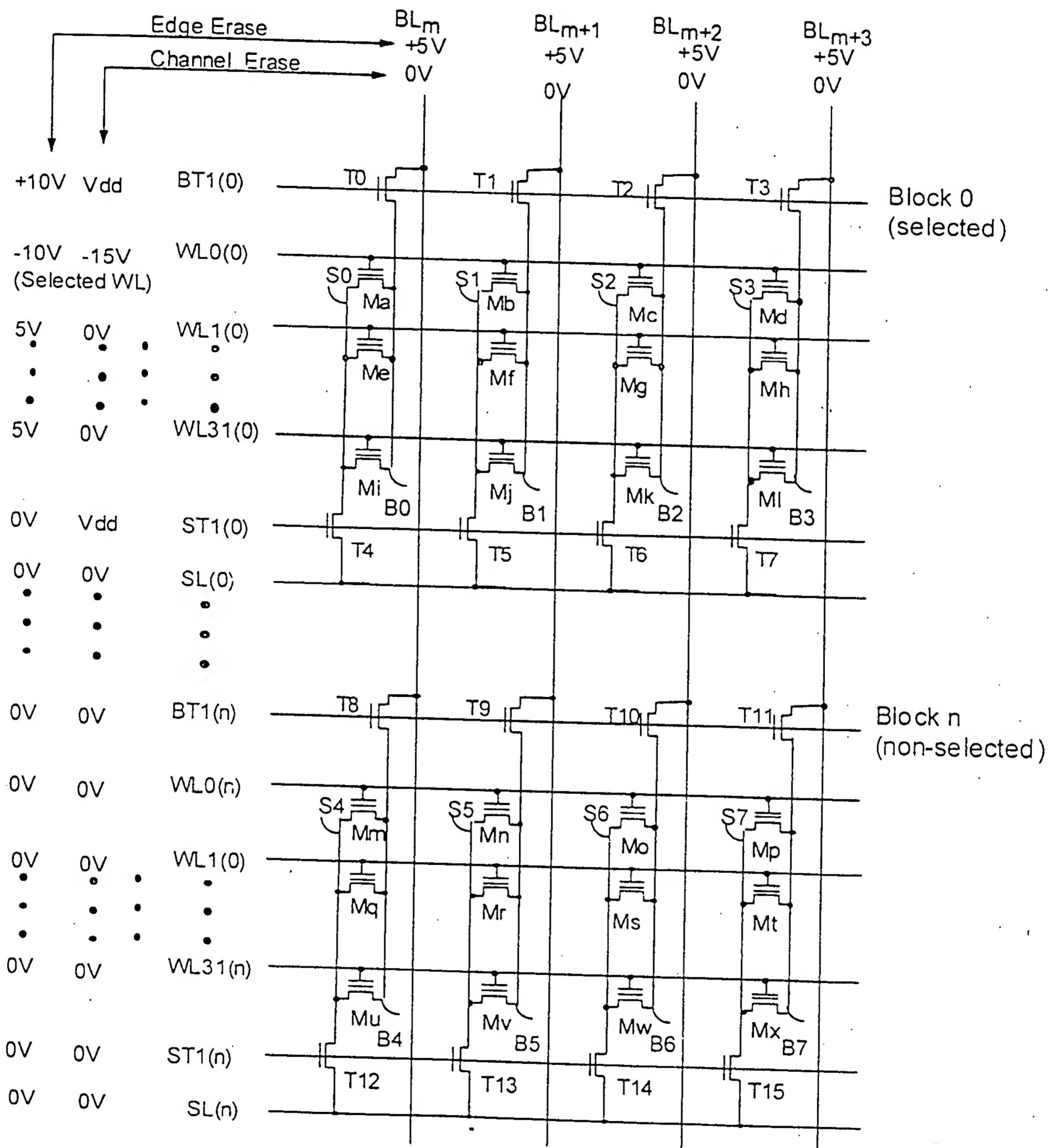


FIG.19

Random Page Erase Verify Operation

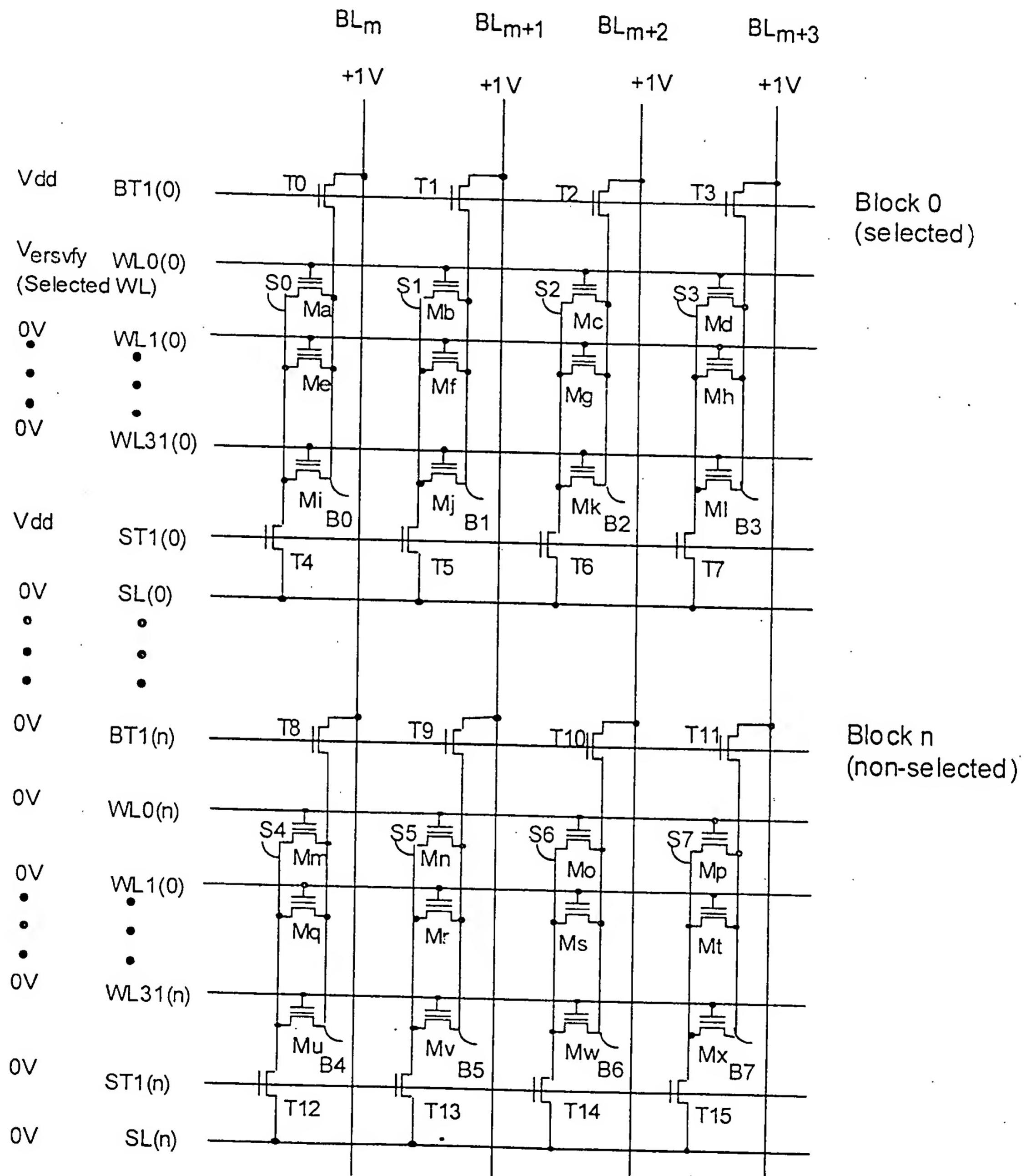


FIG. 20

Block Erase Operations

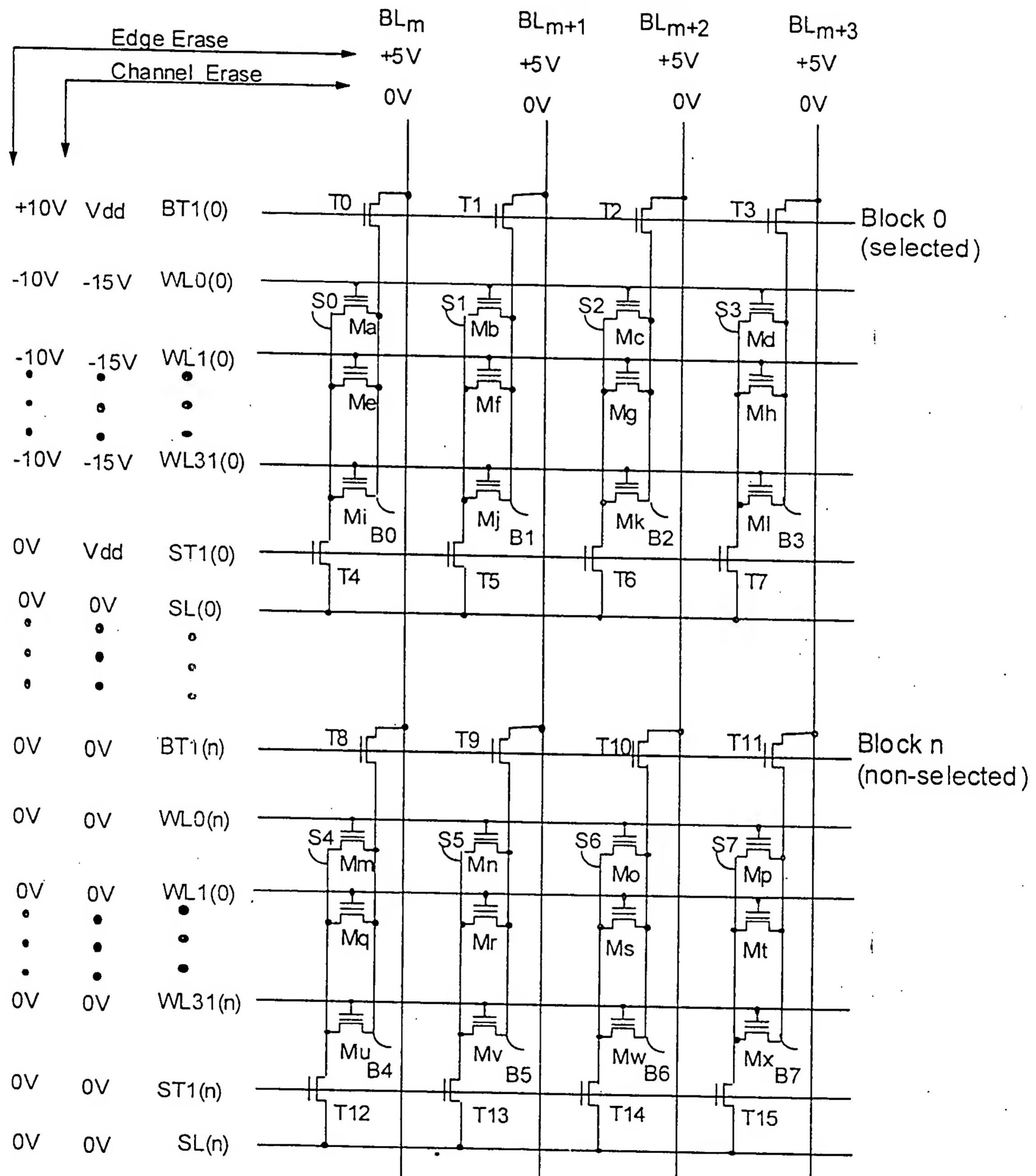


FIG.21

Block Erase Verify

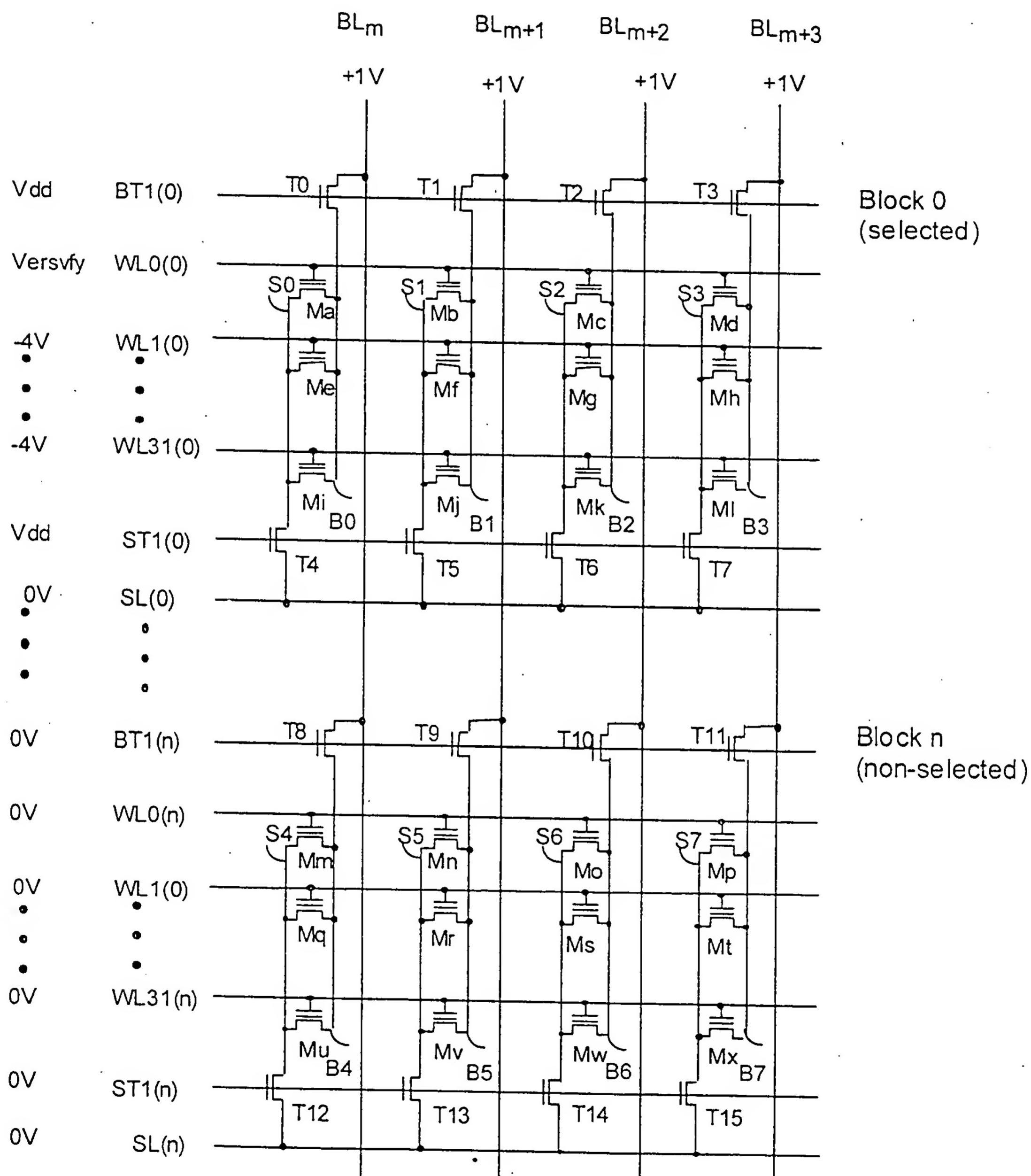


FIG. 22

Block Erase Inhibit

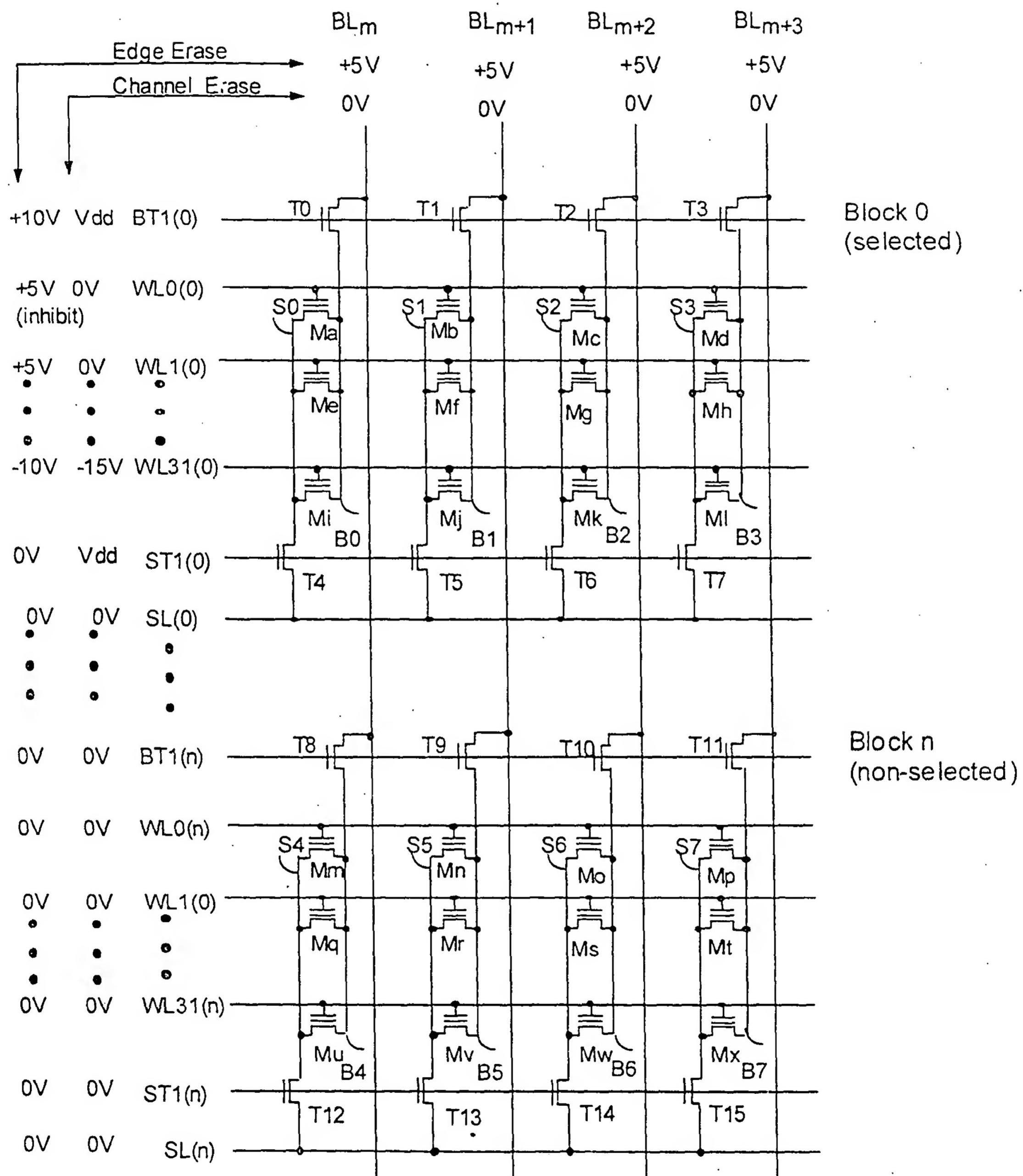


FIG. 23

Correction Operation

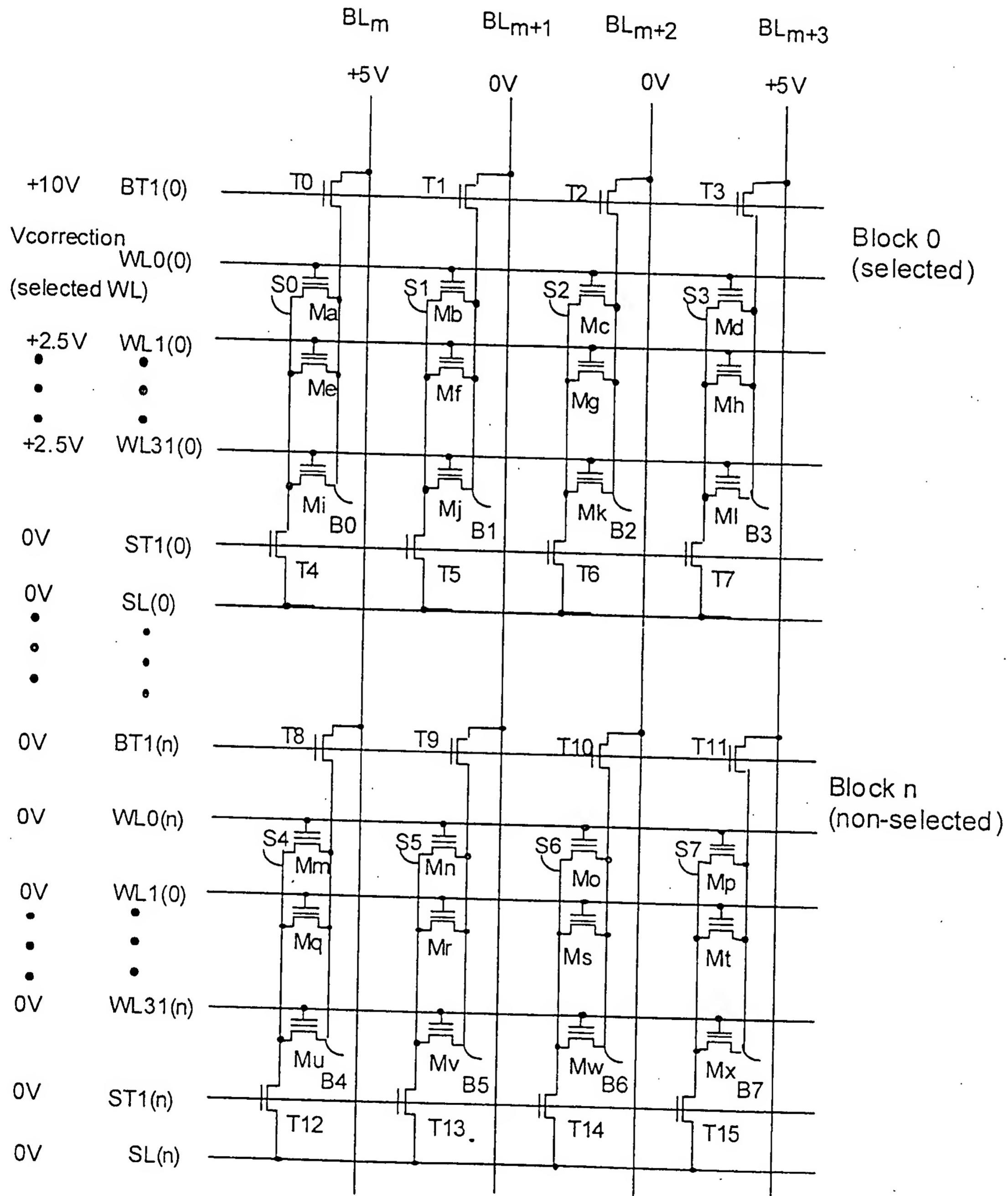


FIG. 24

Correction Verify

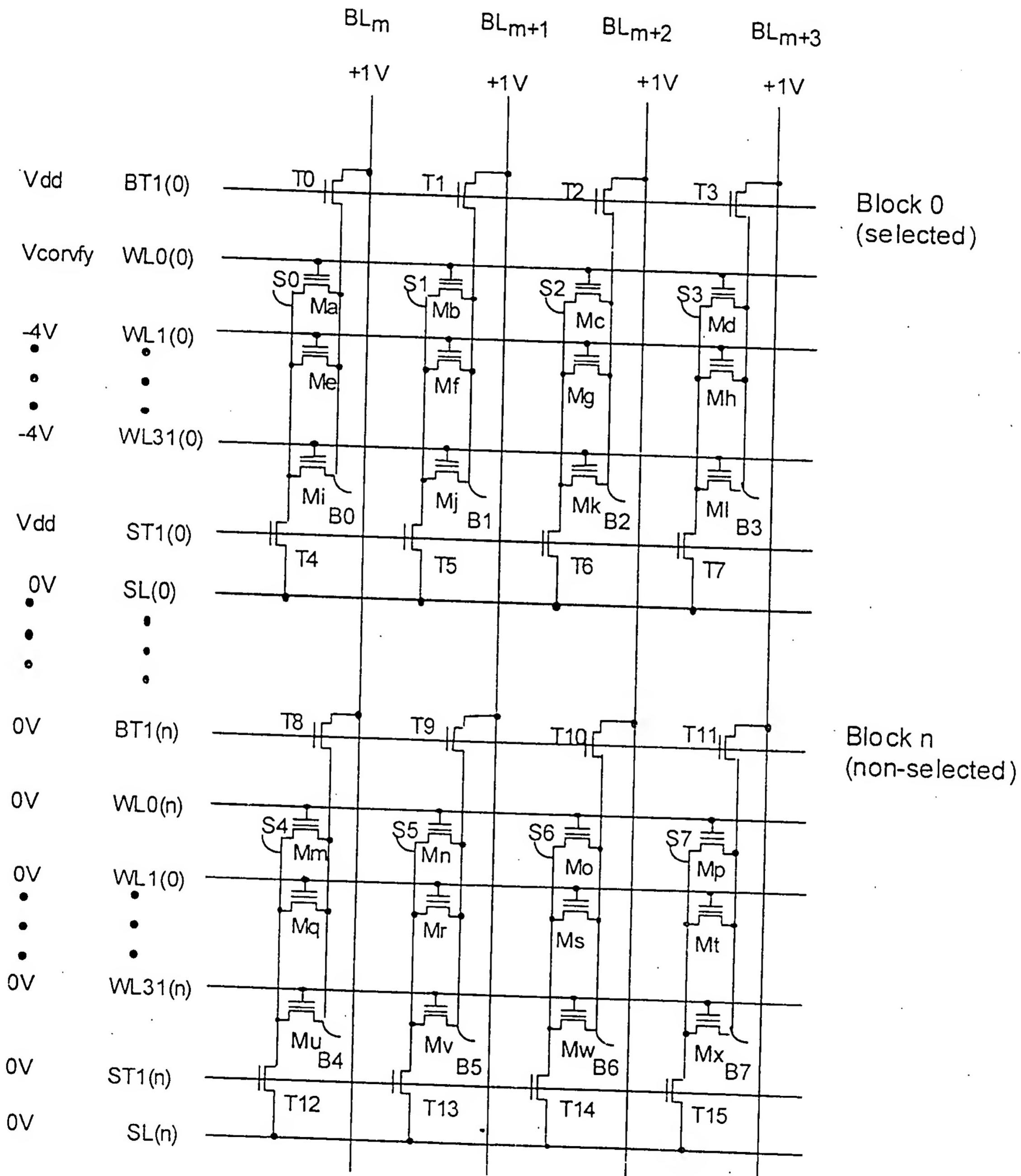


FIG. 25

Random Page Program Operation

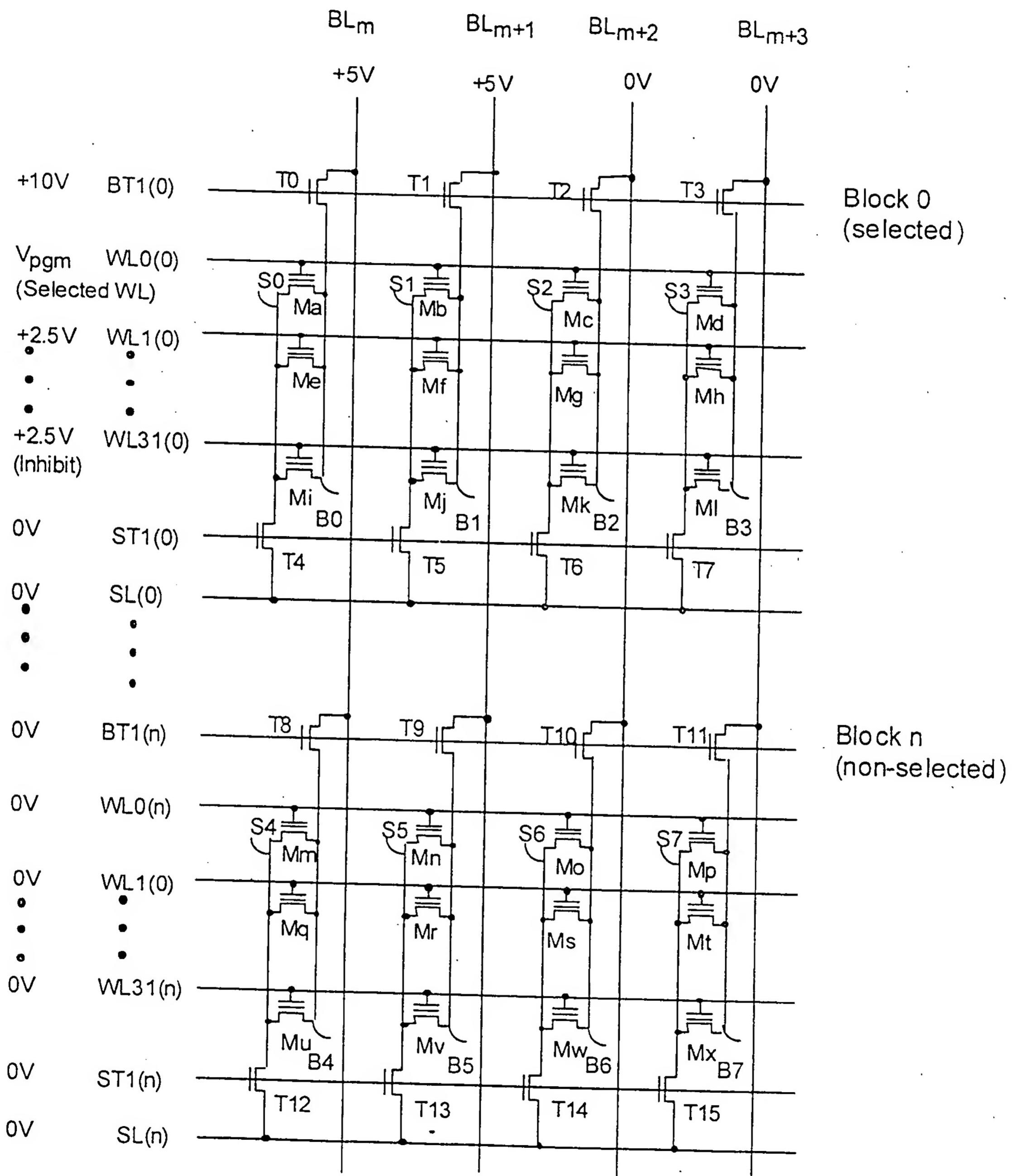


FIG. 26

Random Page Program Verify Operation

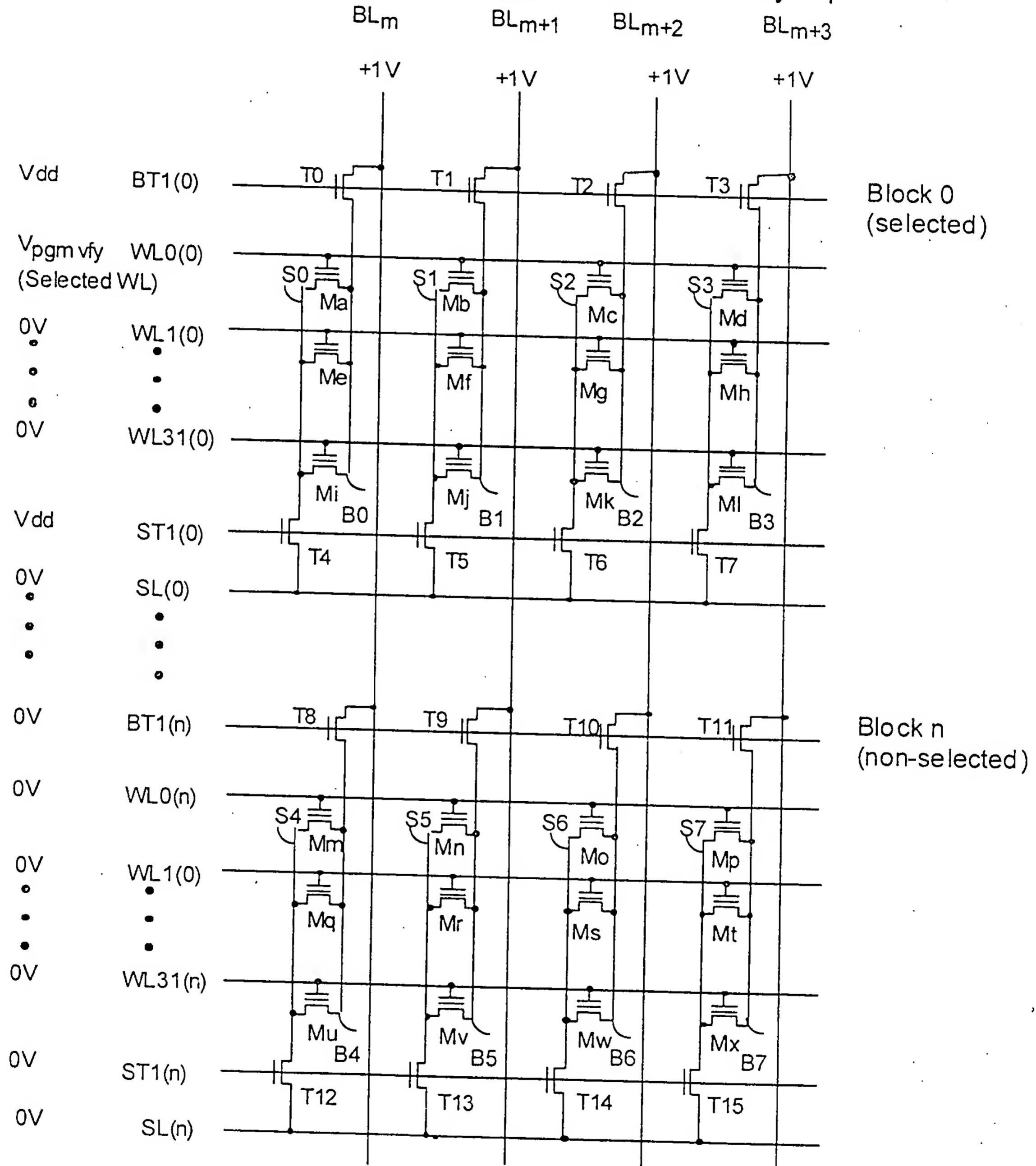
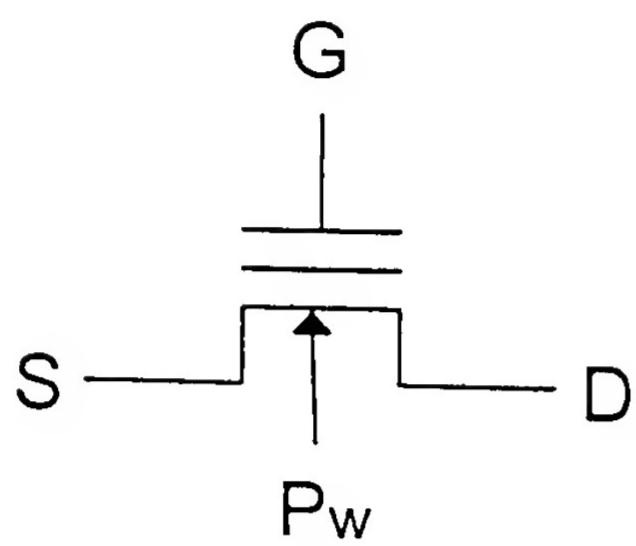


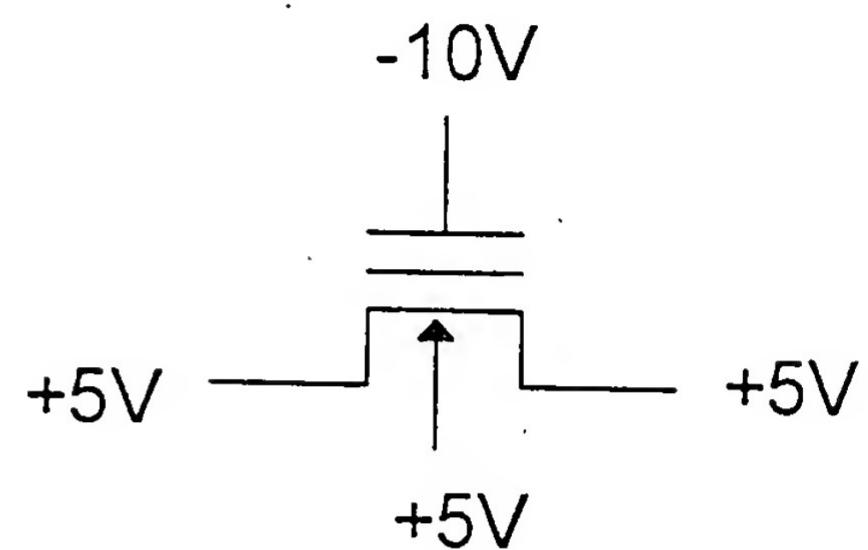
FIG. 27

ETOX NOR cell on a P-well

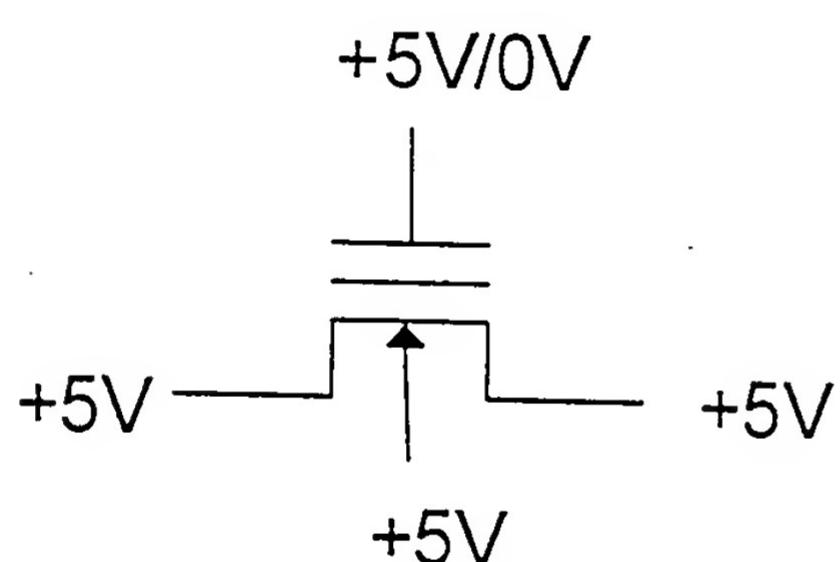
a)



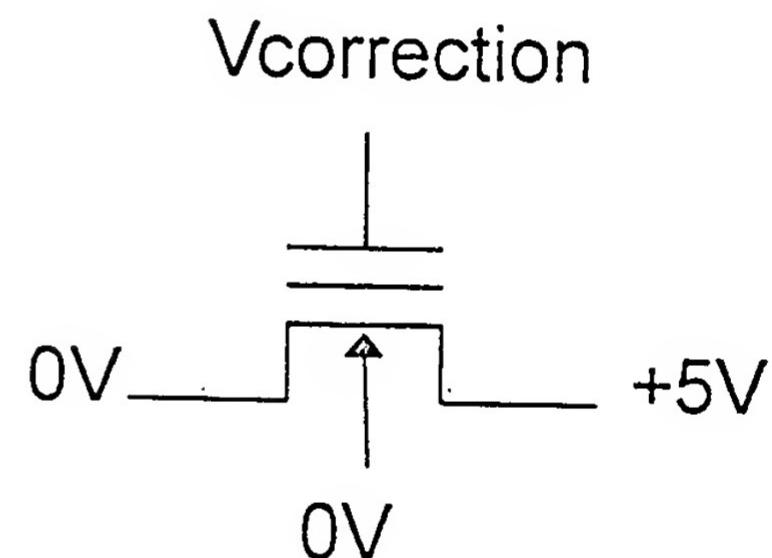
b) ERASE



c) ERASE INHIBIT



d) CORRECTION



e) PROGRAM

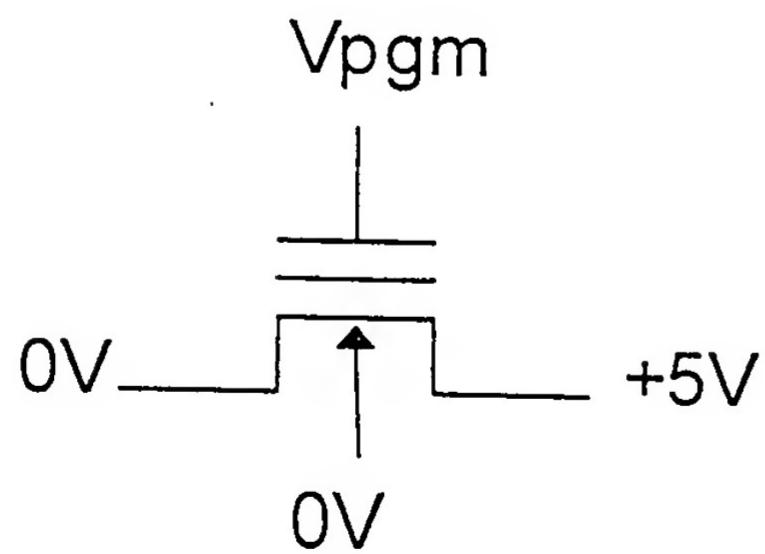
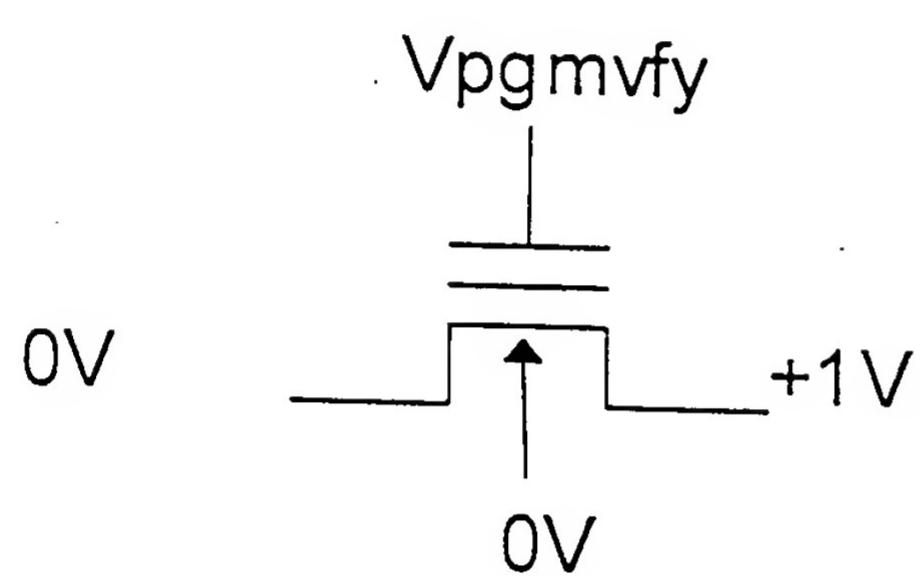


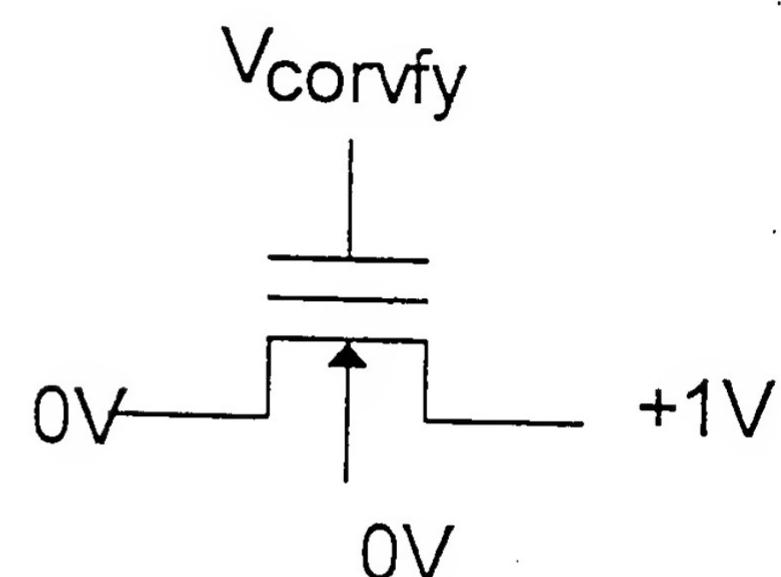
FIG. 28

ETOX NOR cell on a P-well

a)

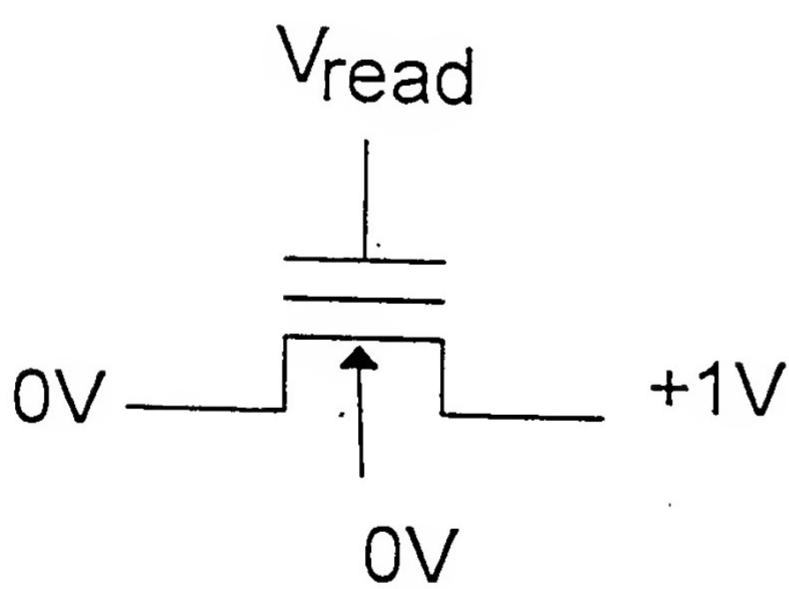


b) CORRECTION VERIFY



c)

READ



d)

ERASE VERIFY

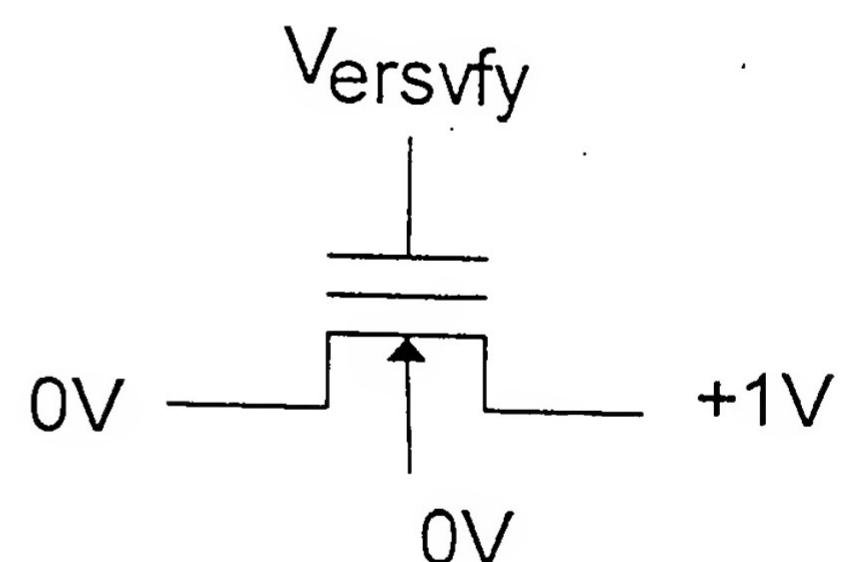


FIG. 29

ETOX NOR Array on a Pwell

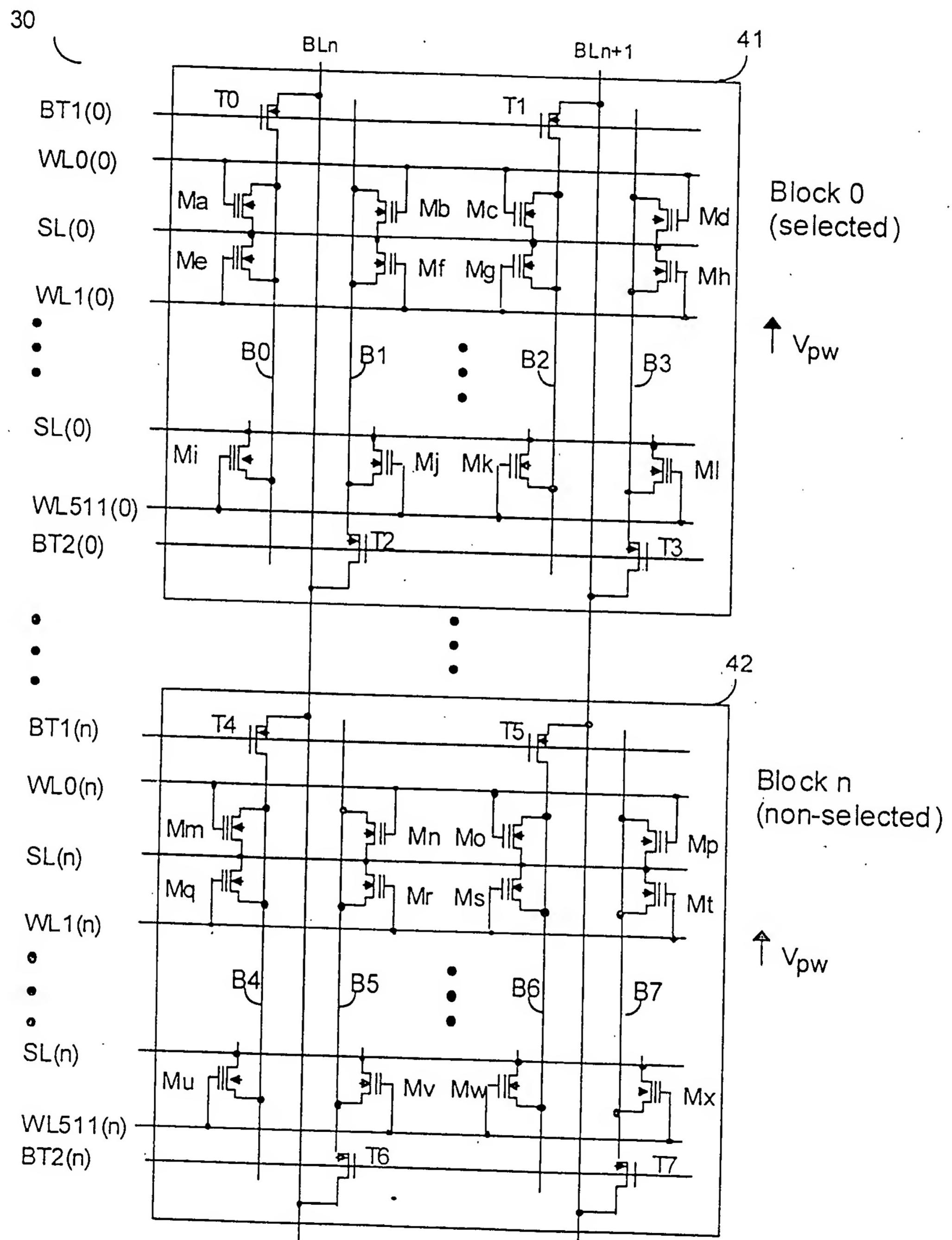


FIG. 30

Block Erase Operations

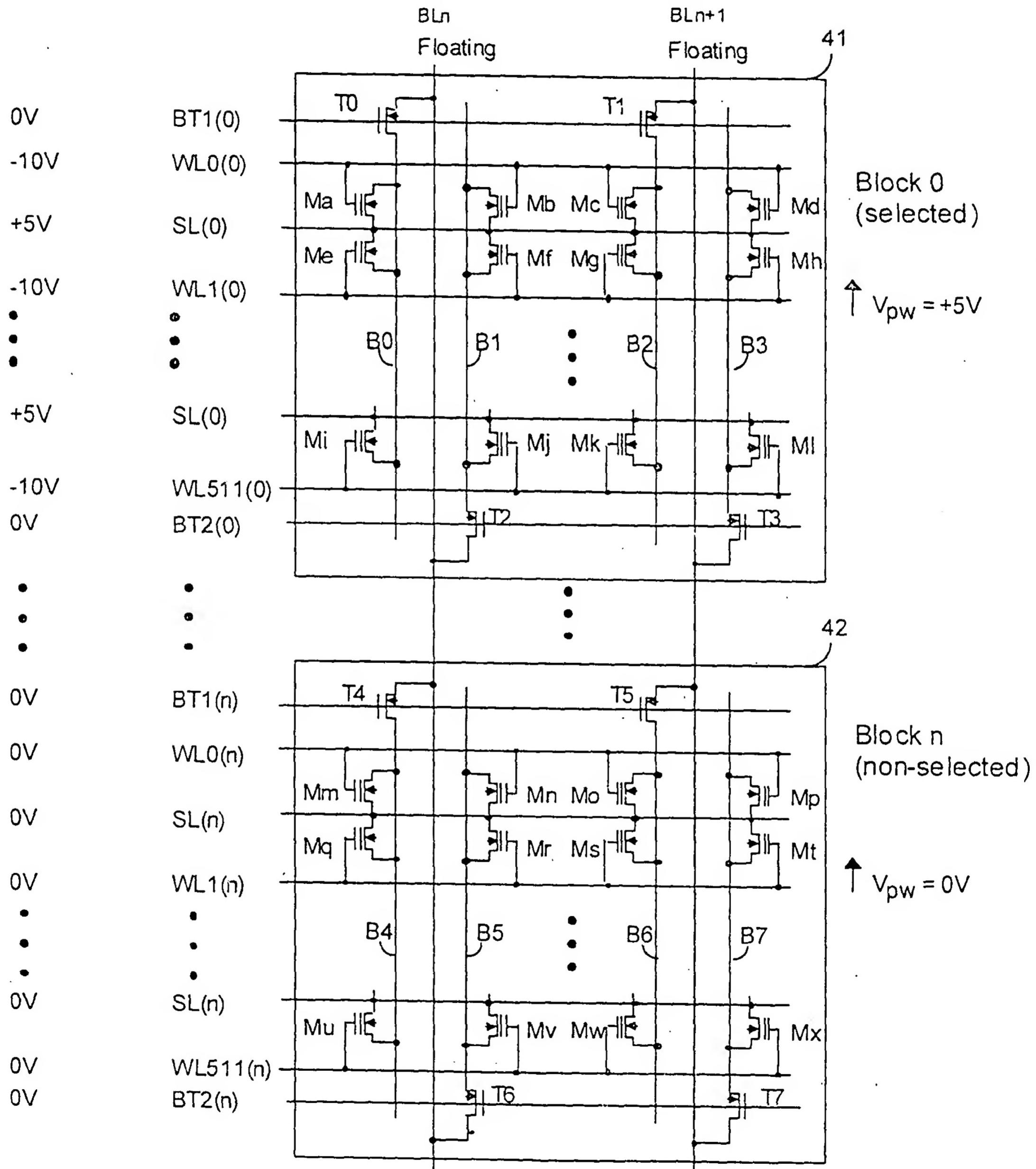


FIG. 31

Block Erase Verify

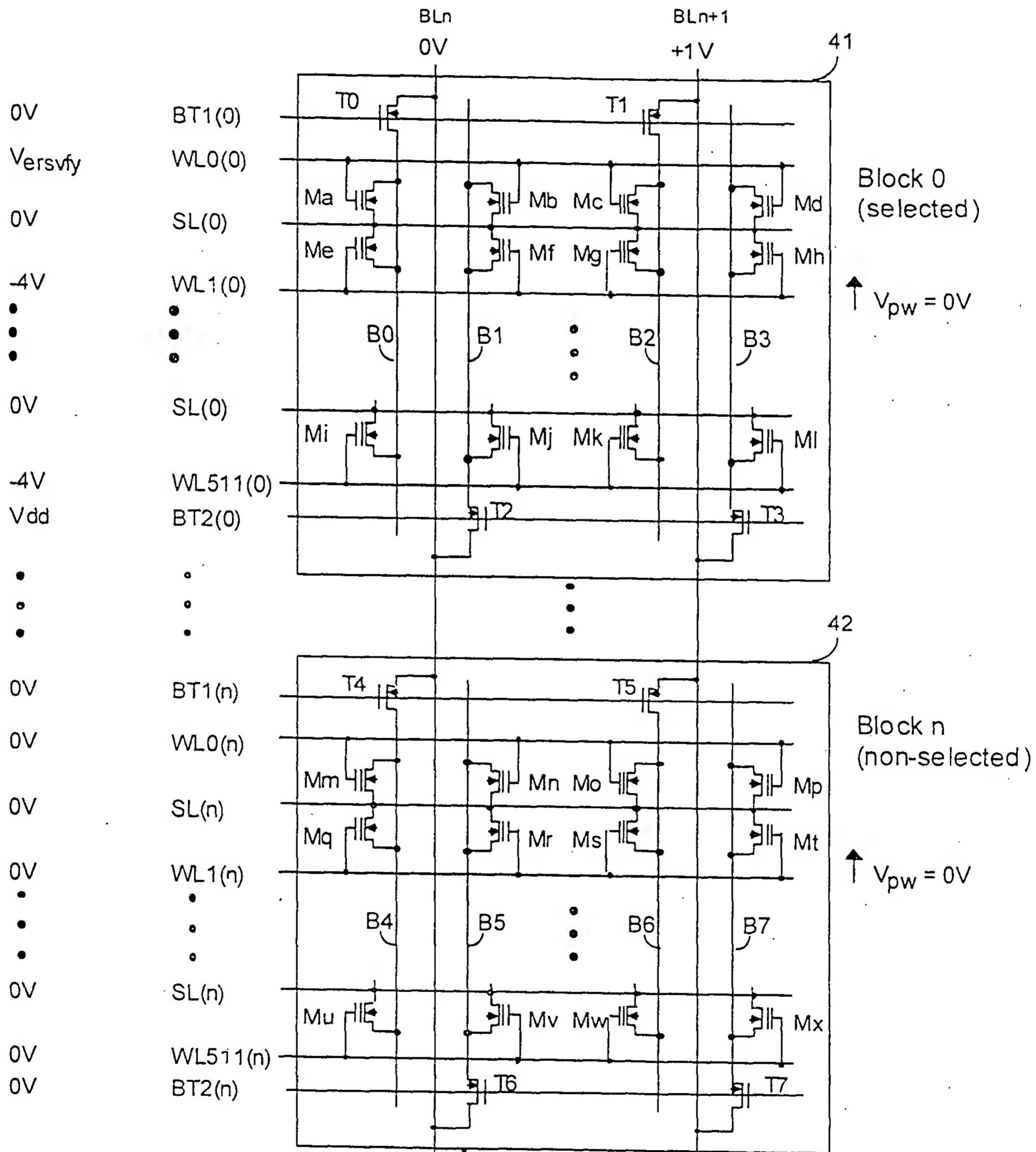


FIG. 32

Erase Inhibit

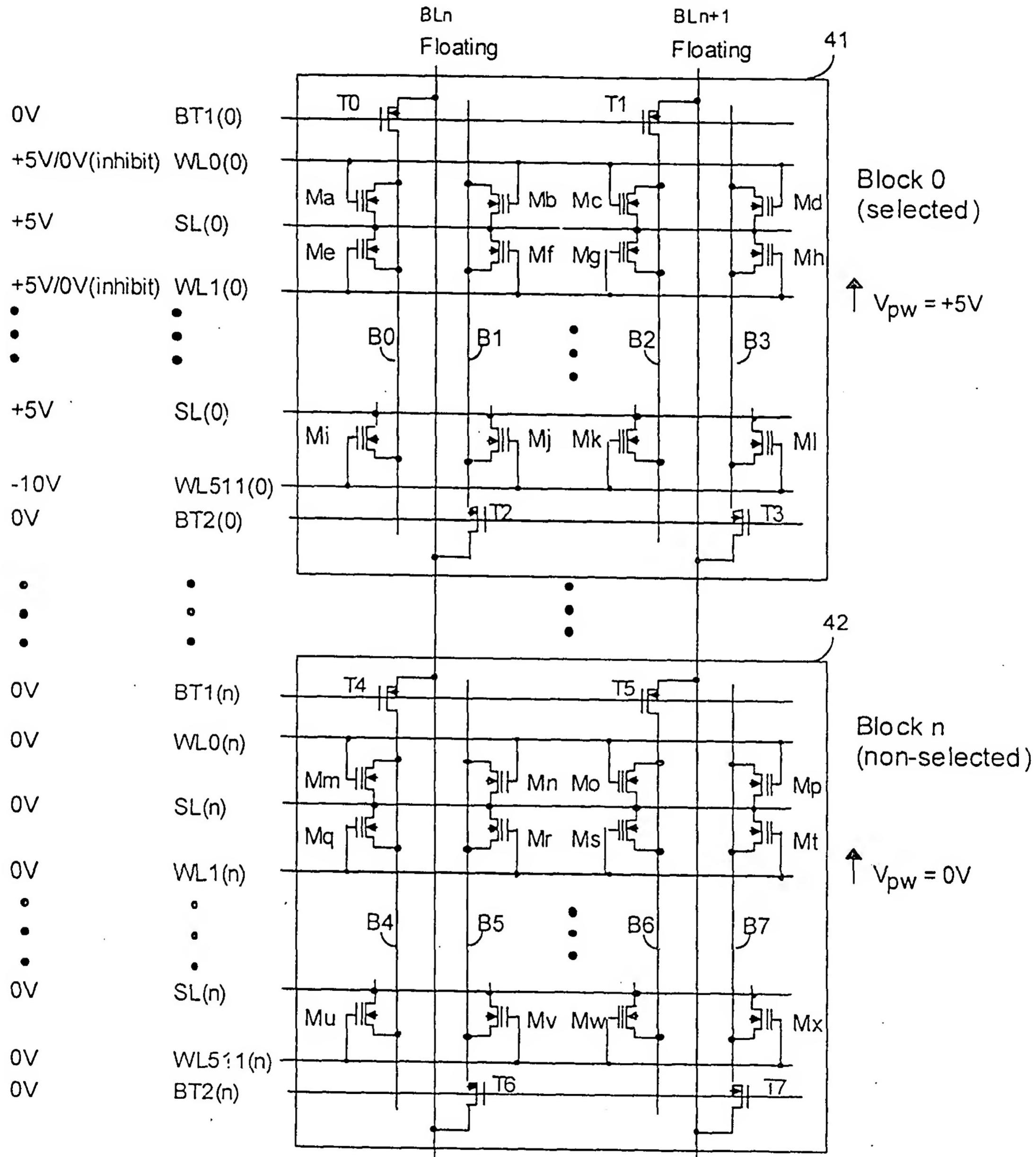


FIG. 33

Correction Operations

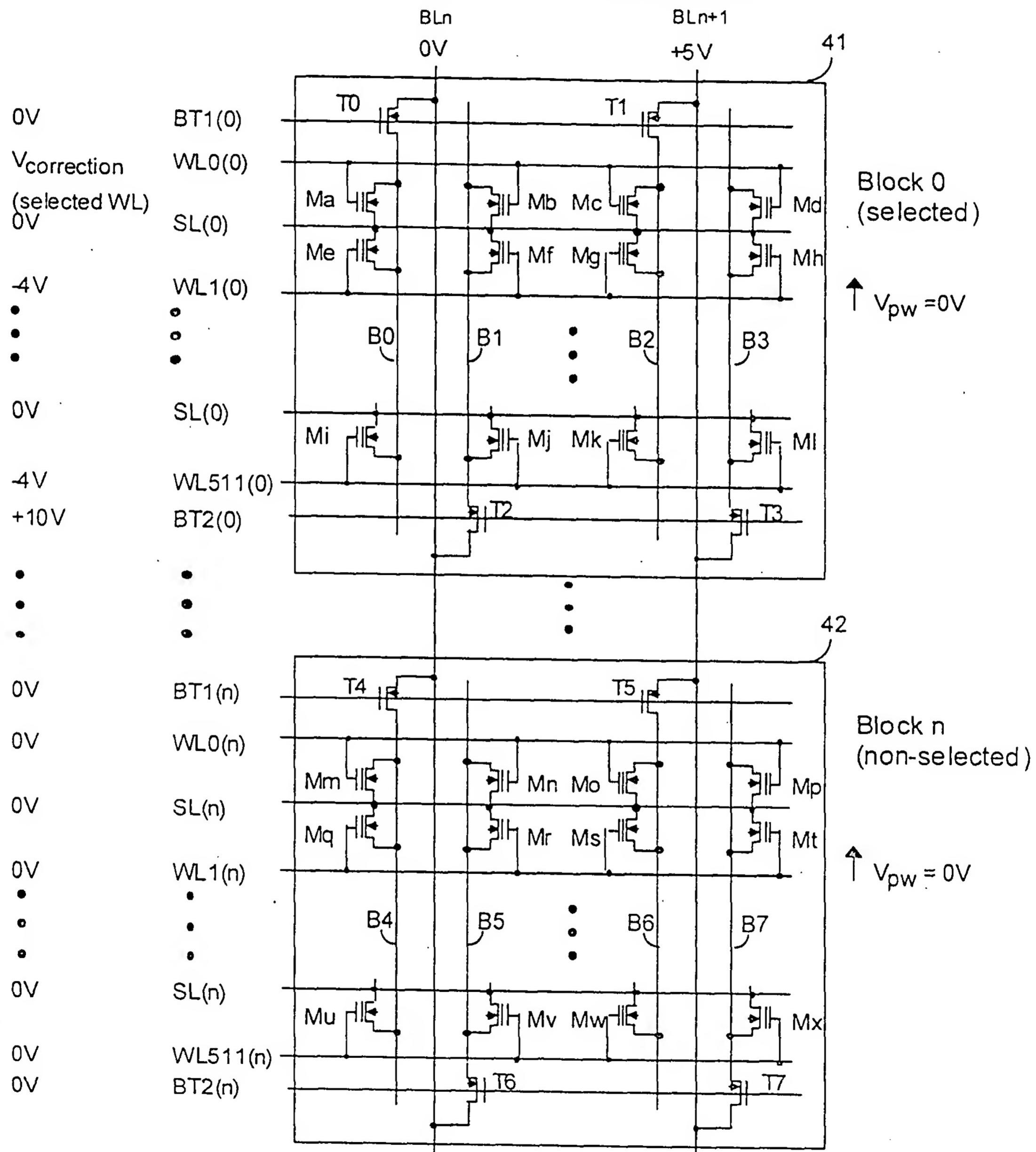


FIG. 34

Correction Verify Operations

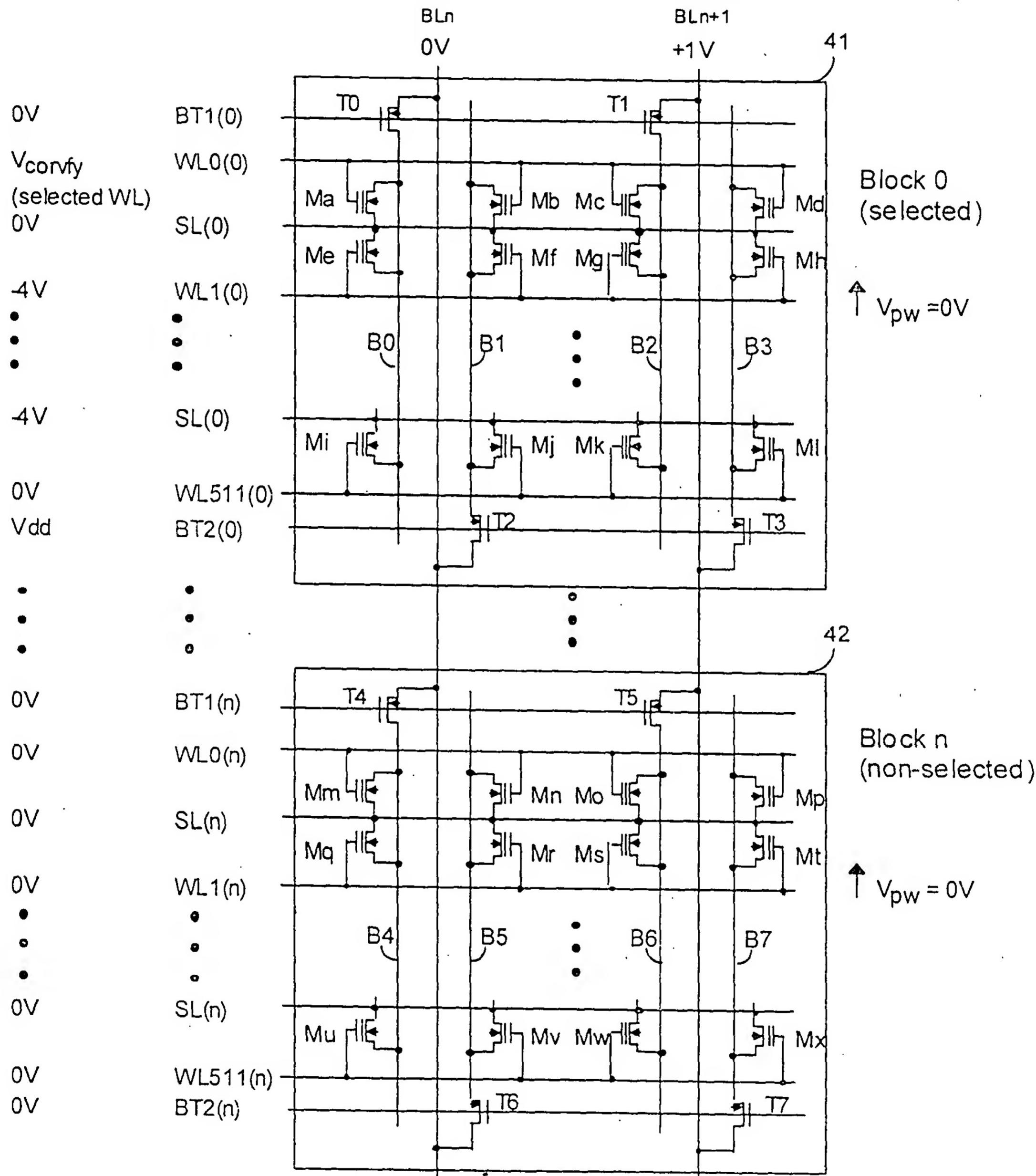


FIG.35

Program Operations

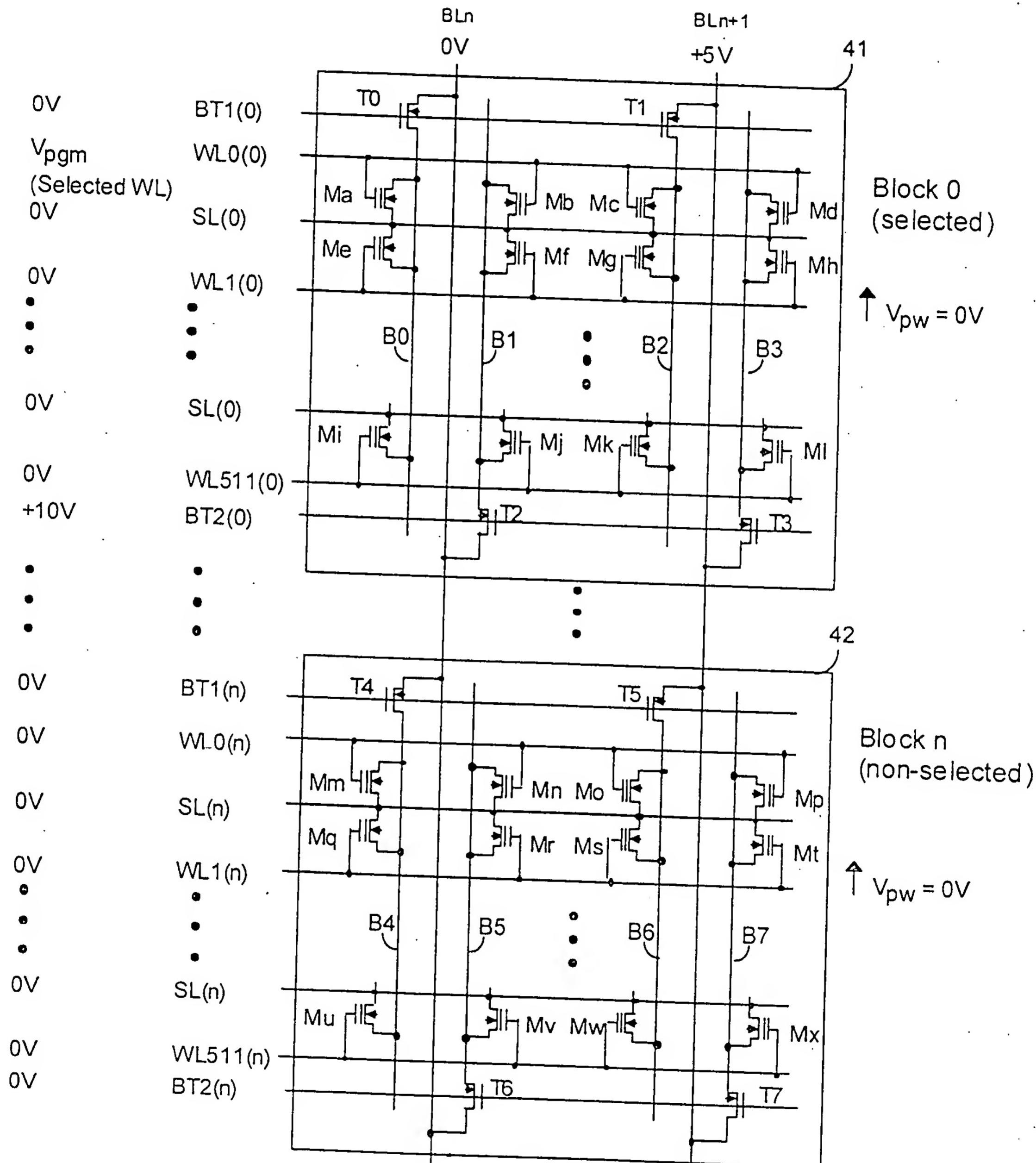


FIG. 36

Program Verify Operations

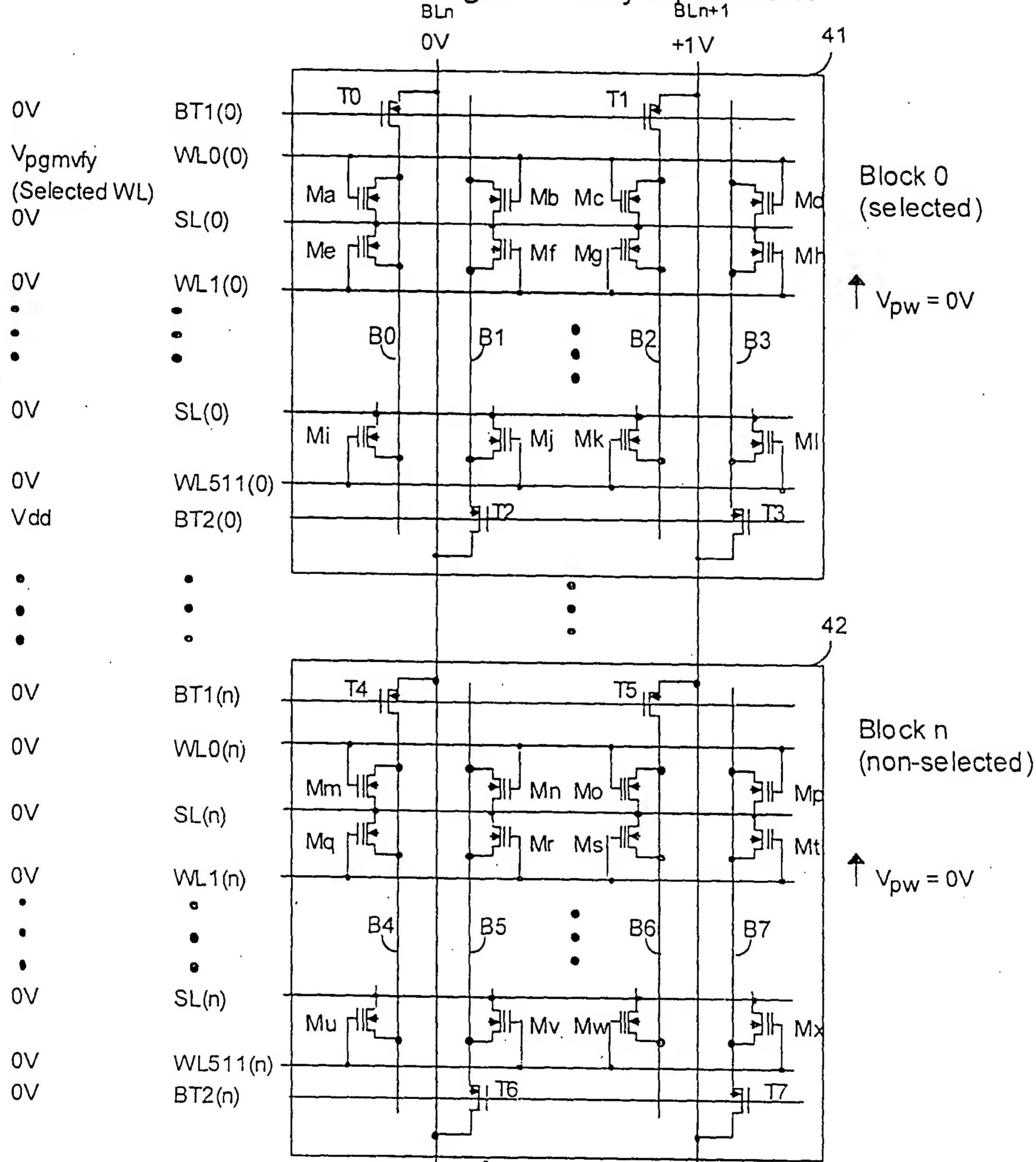


FIG. 37

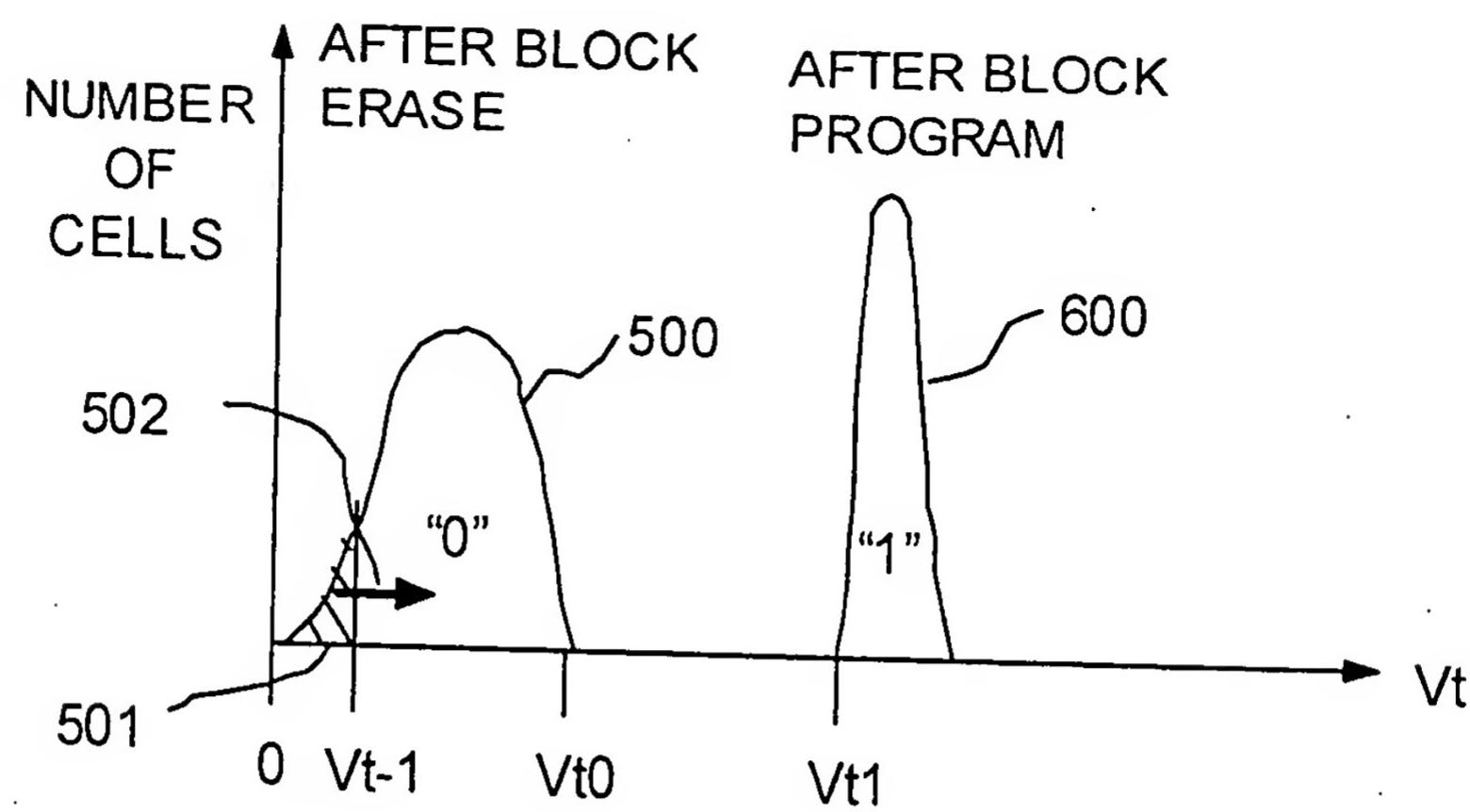


FIG.38a (Prior Art)

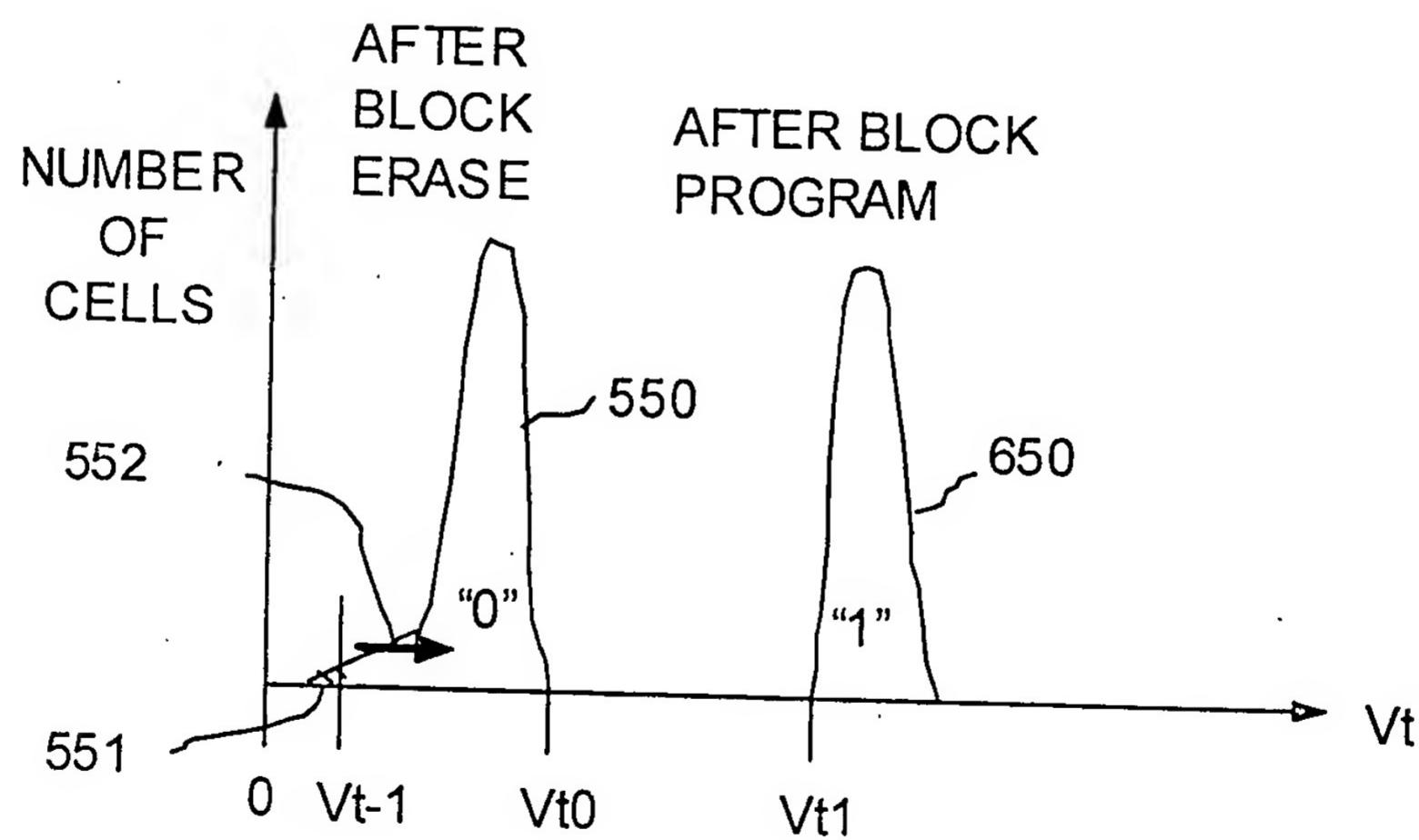


FIG.38b

BLOCK ERASE OPERATION

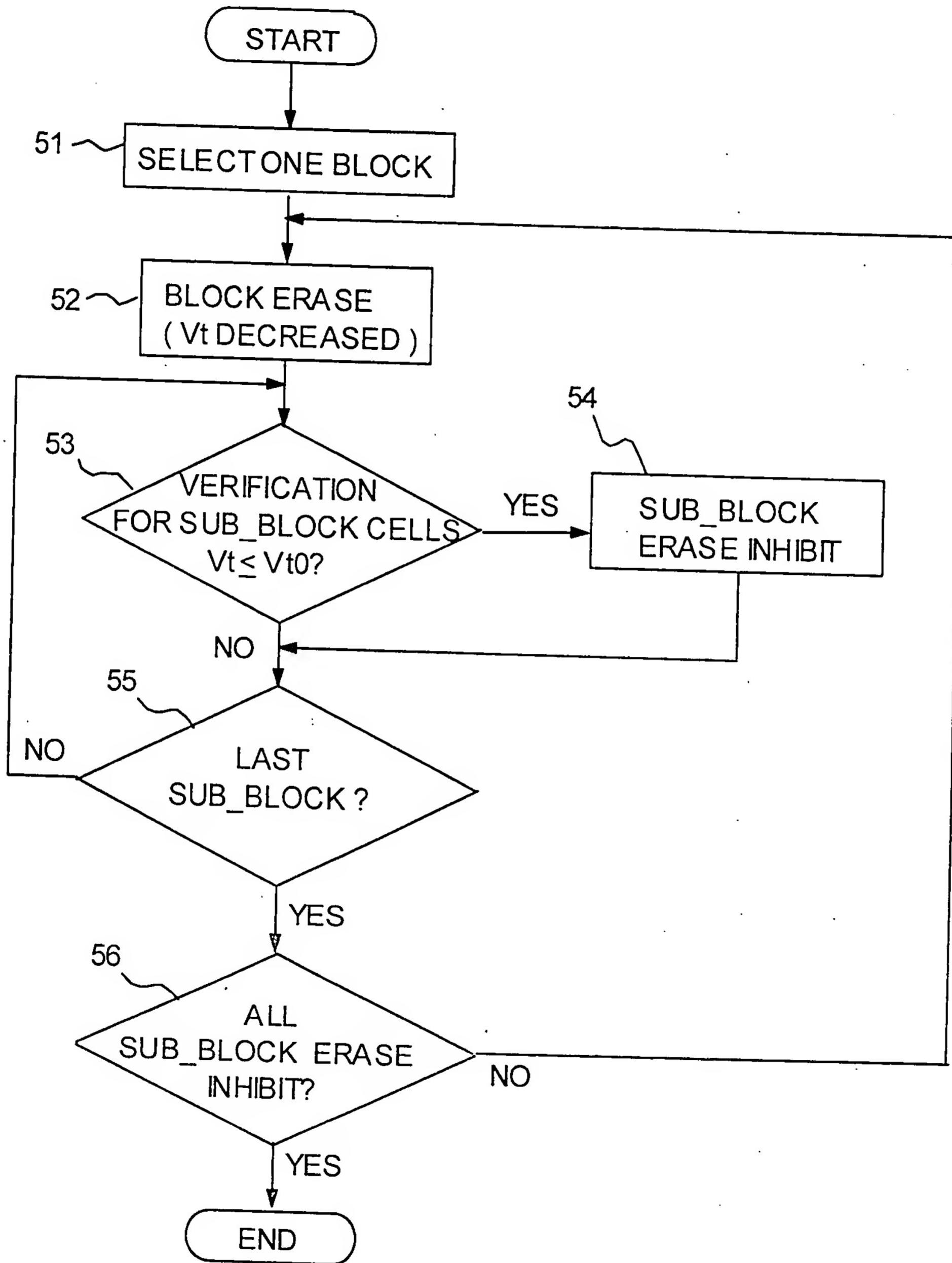


FIG. 39

CORRECTION OPERATION

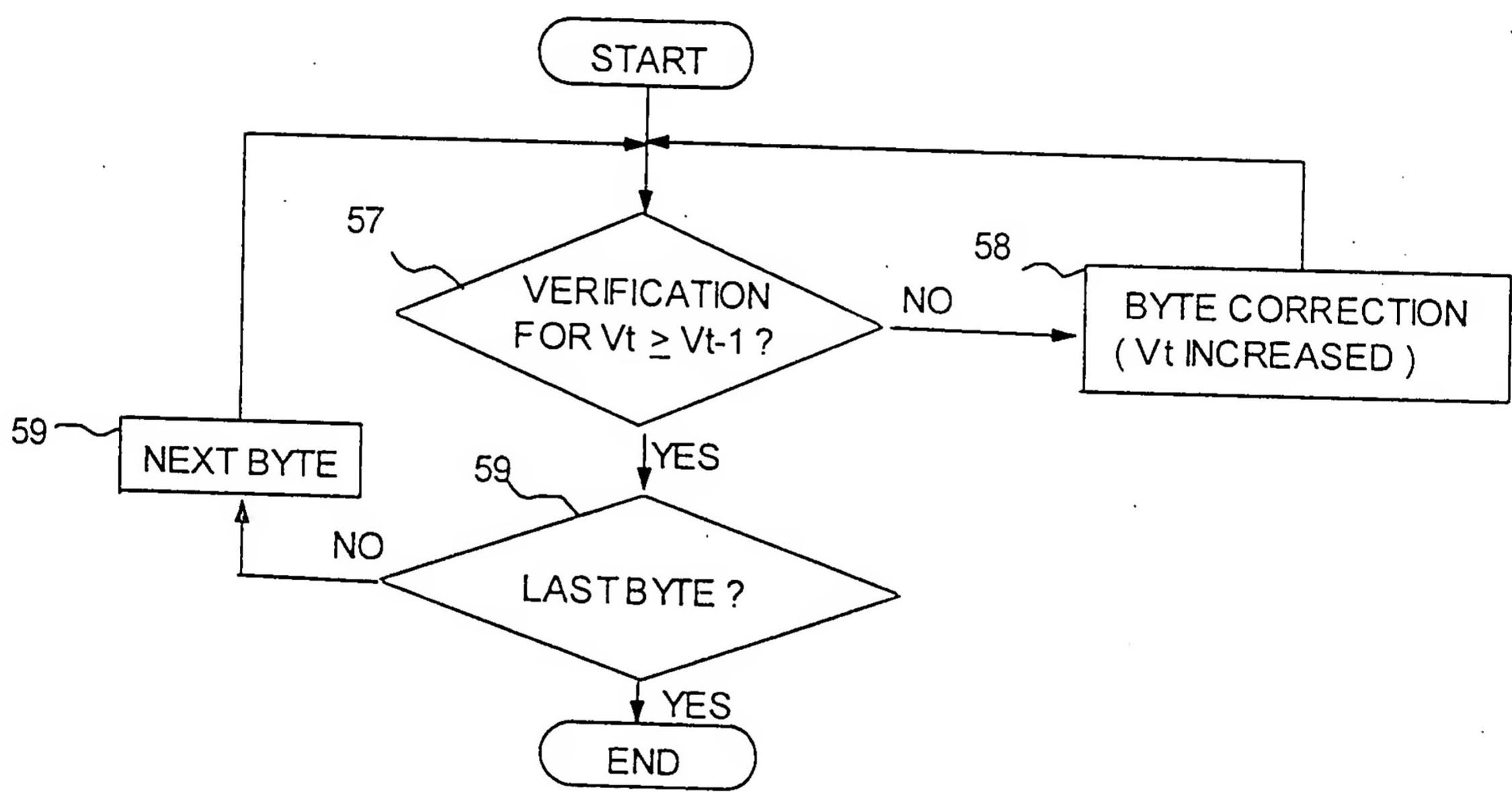


FIG. 40

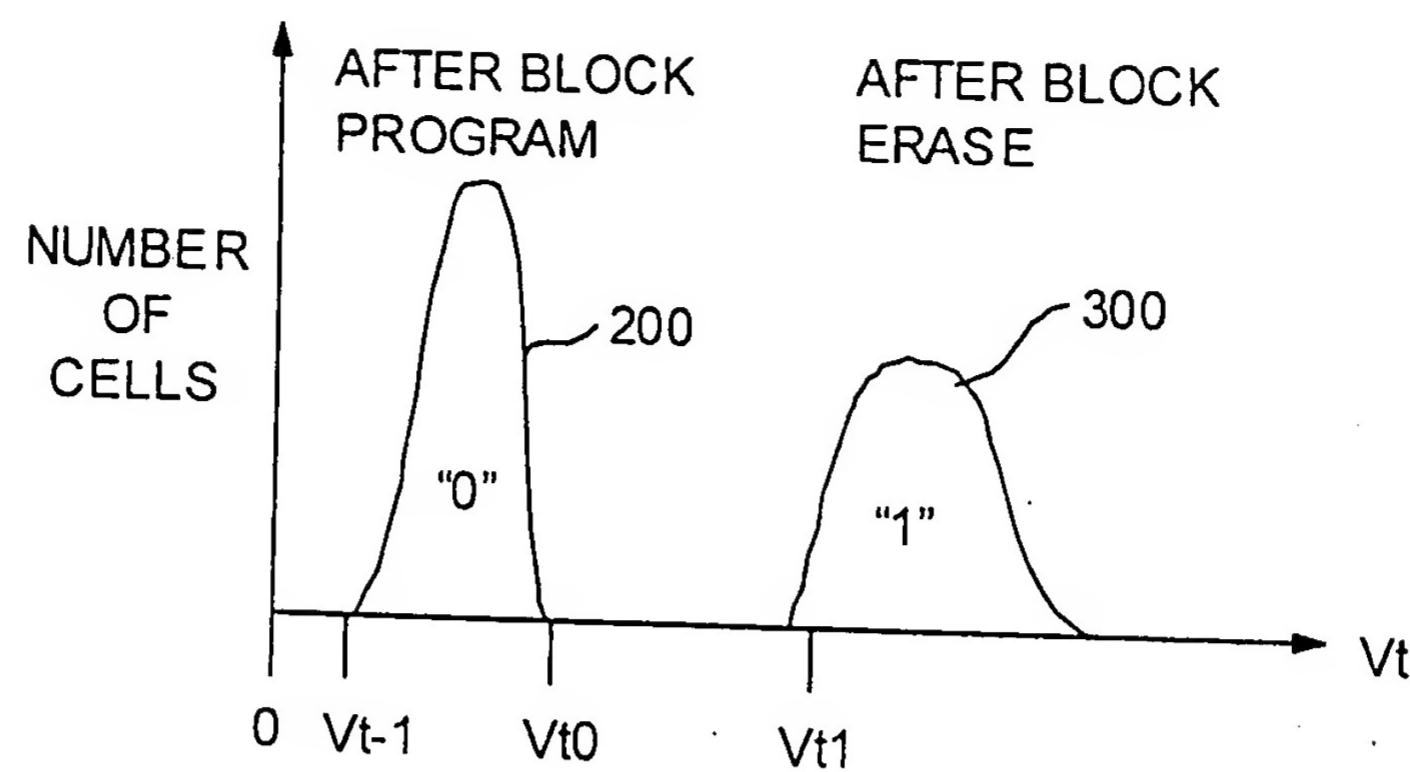


FIG.41a (Prior Art)

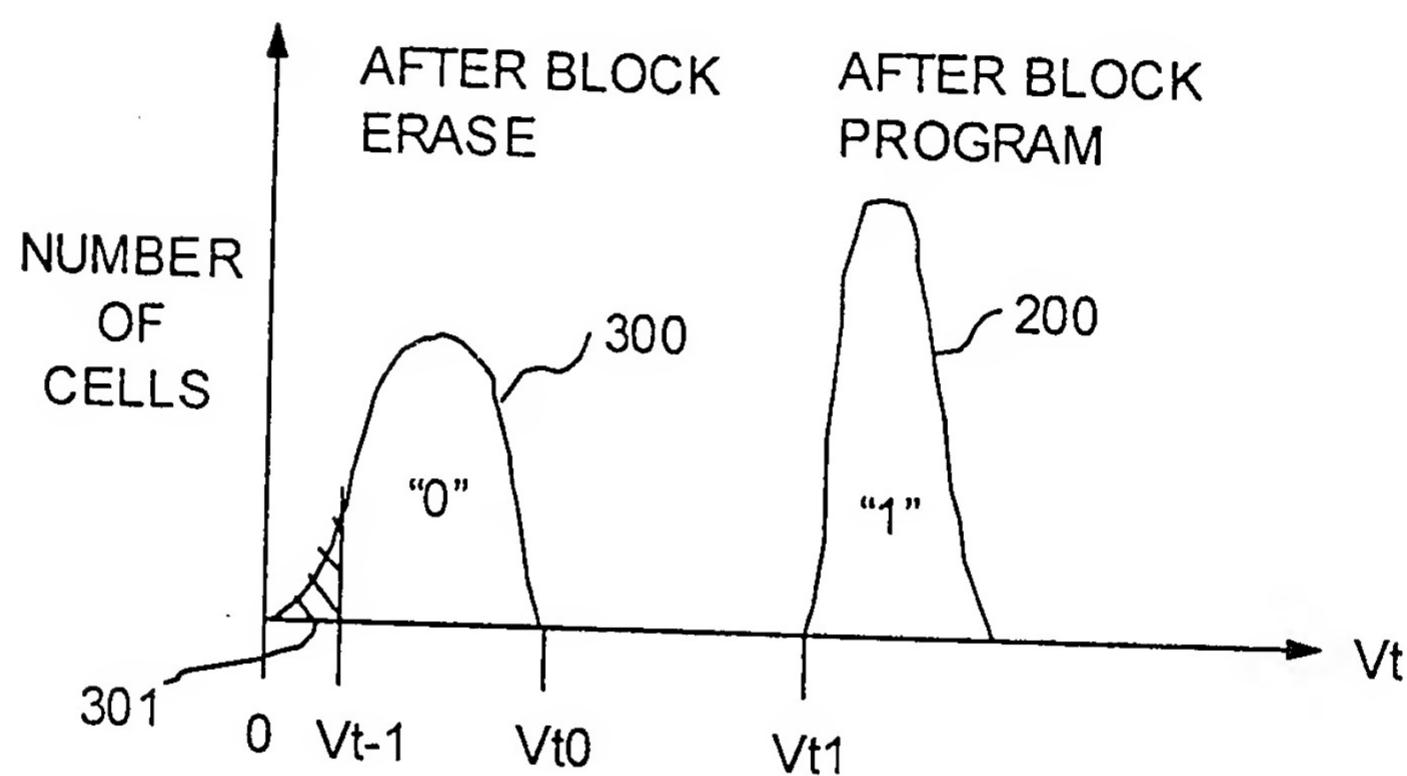


FIG.41b (Prior Art)

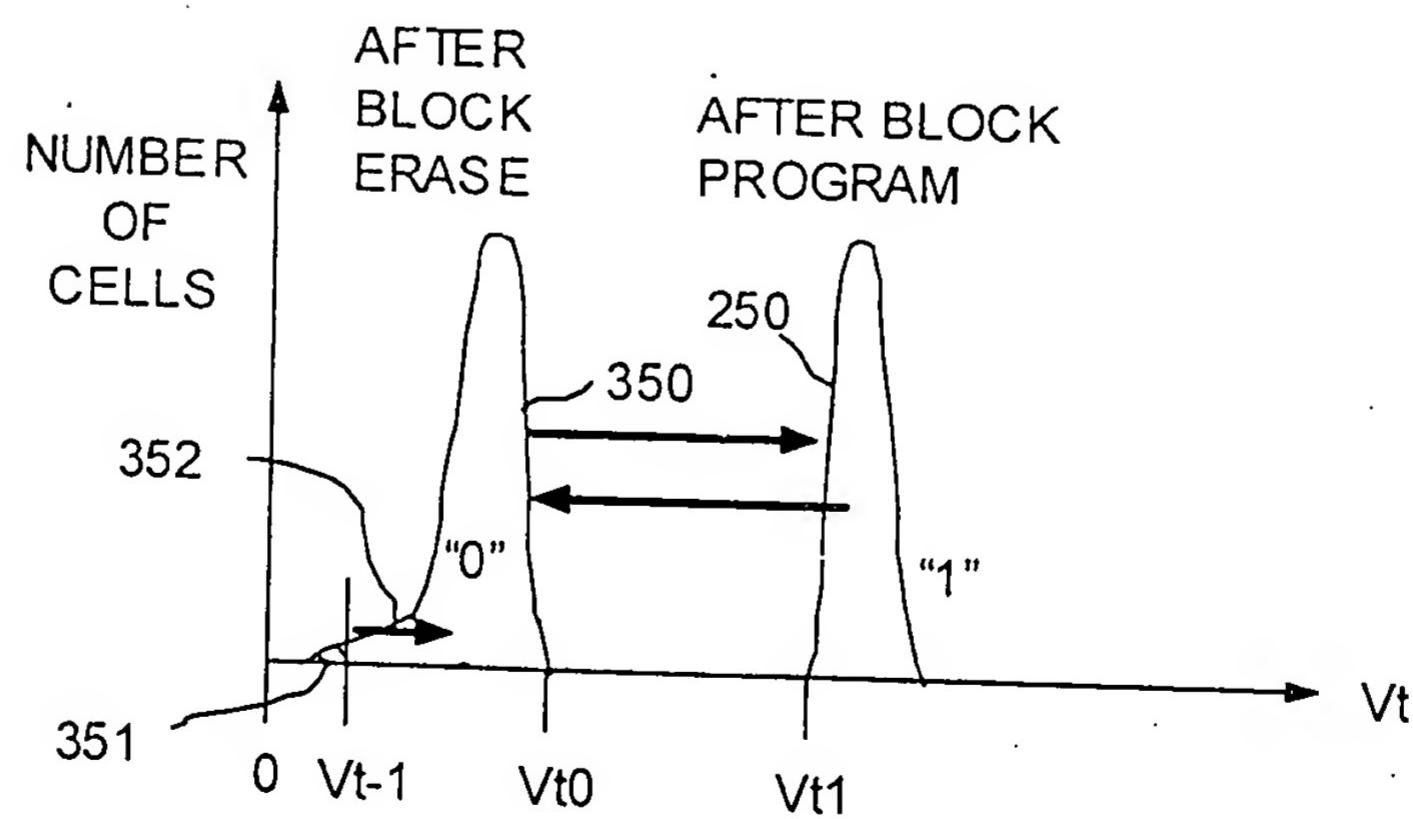


FIG.41c

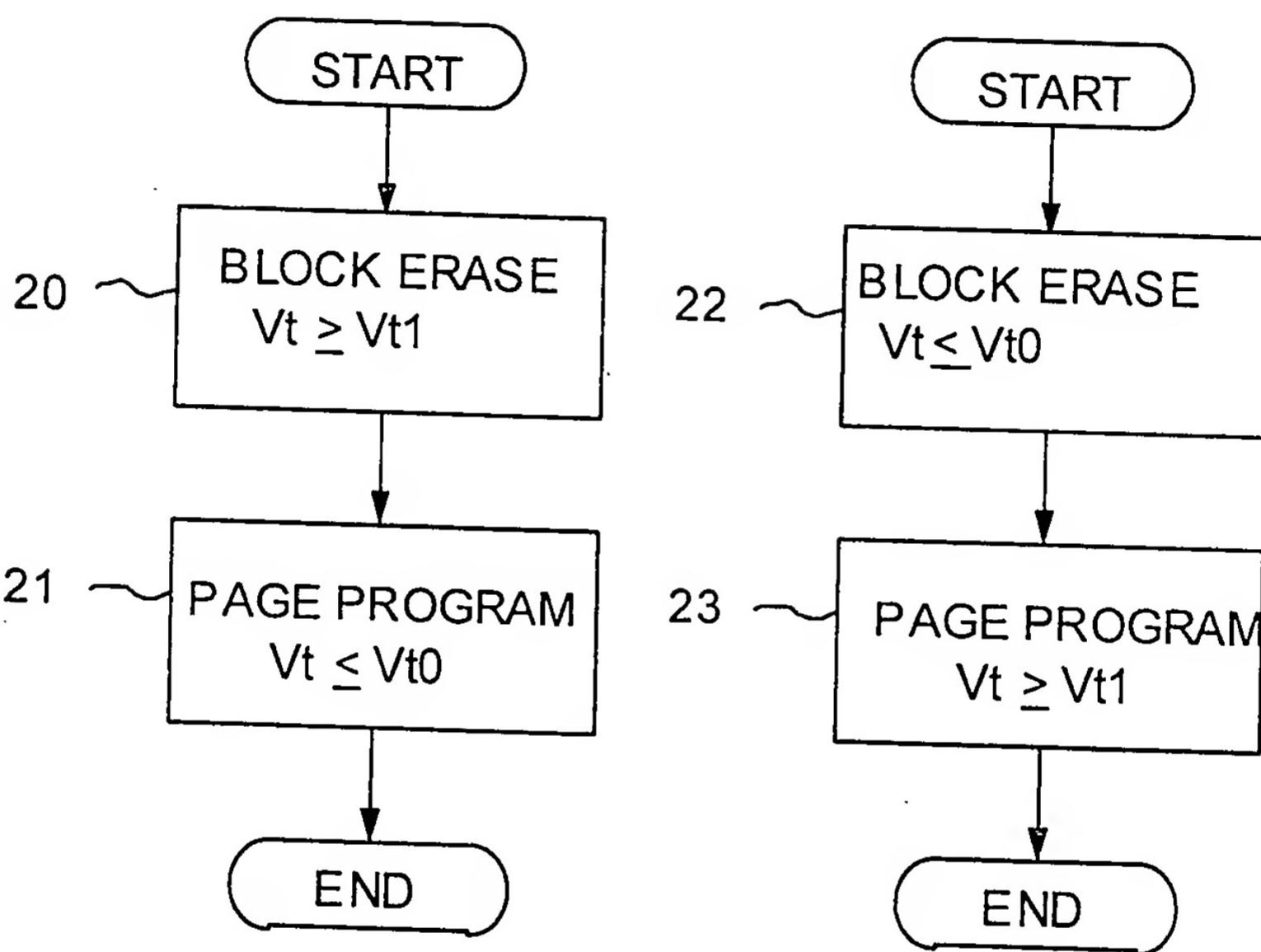


FIG.42a
(Prior Art)

FIG.42b
(Prior Art)

BLOCK ERASE OPERATION

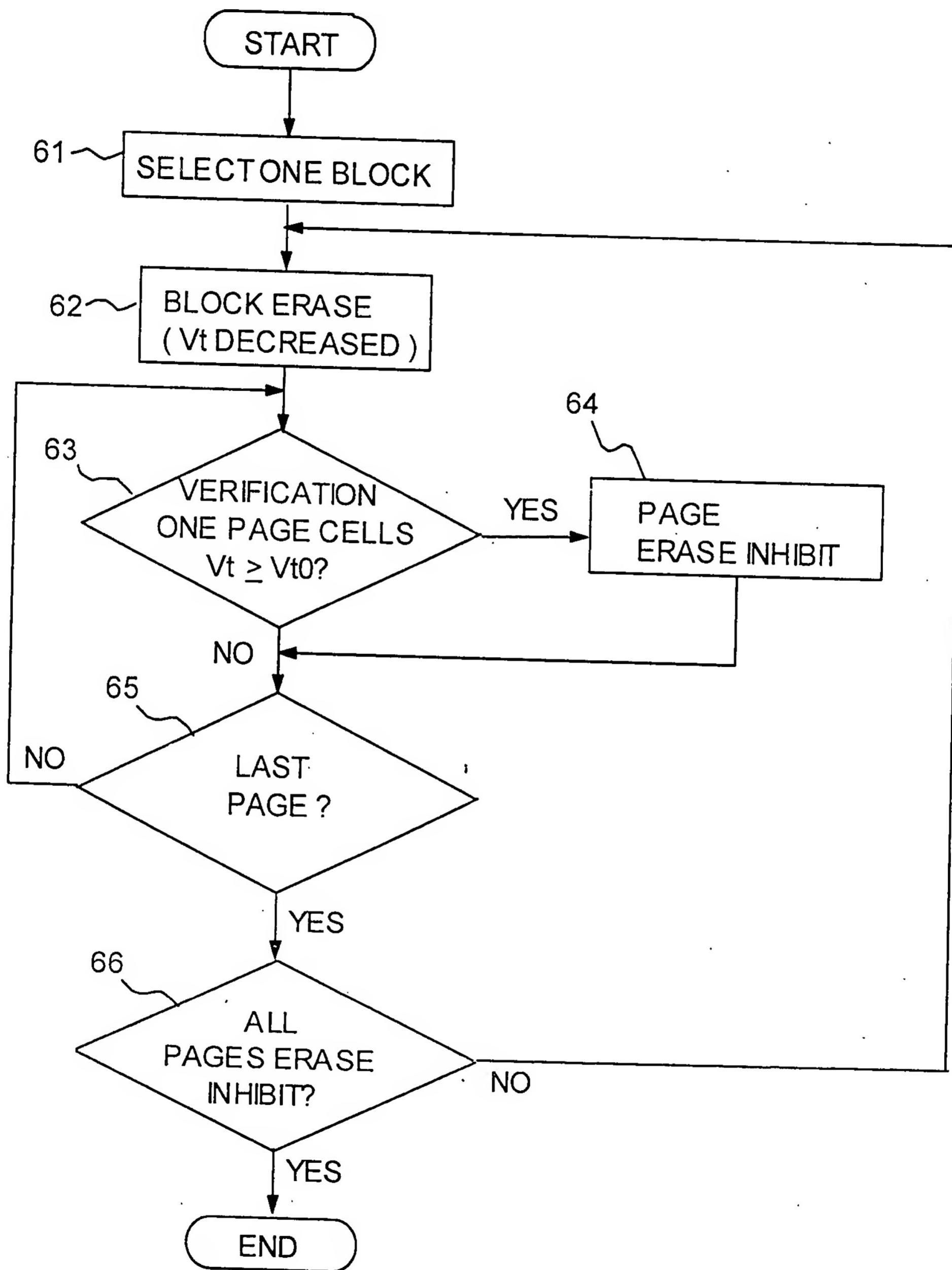


FIG. 43

CORRECTION OPERATION

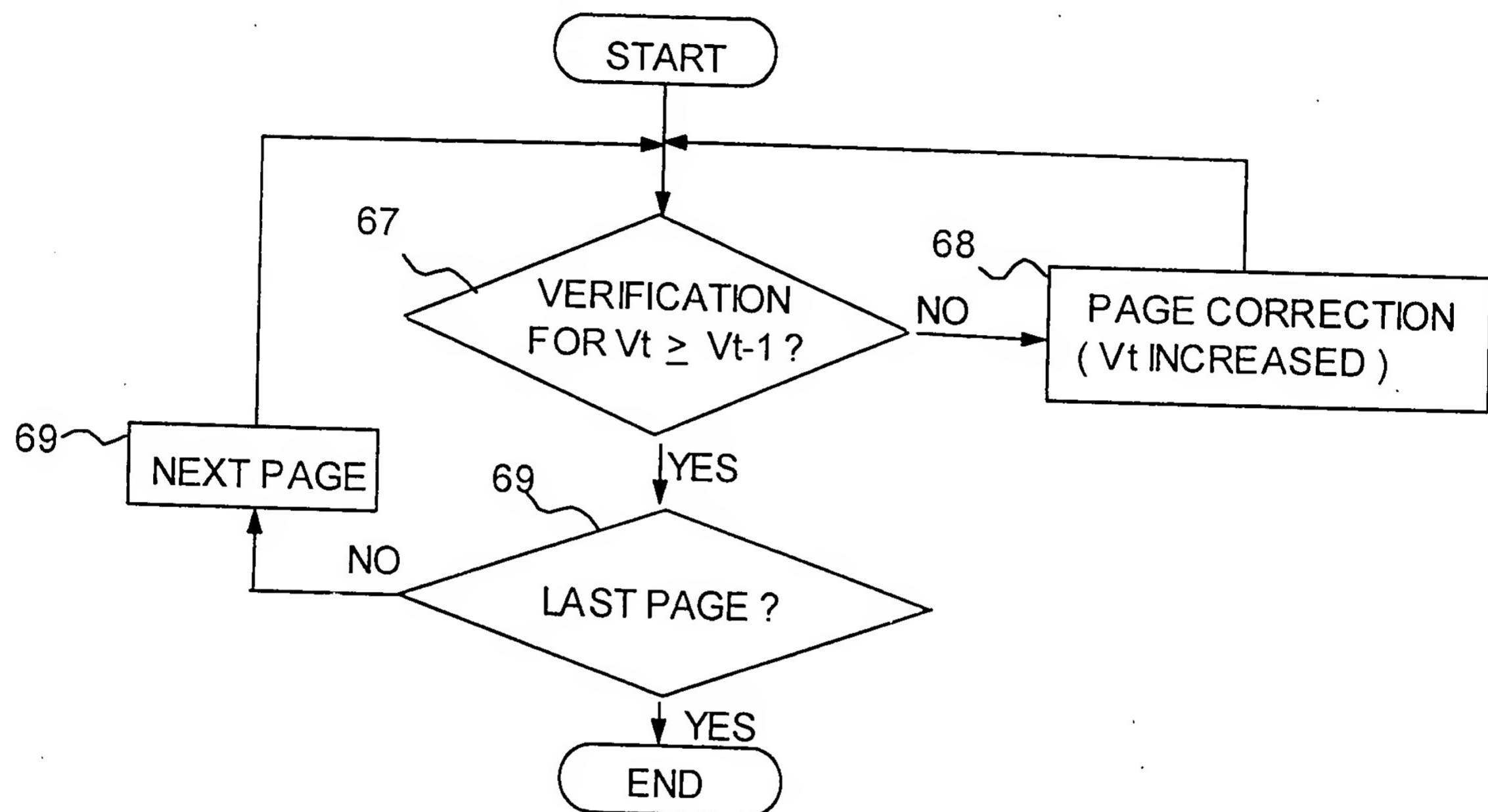


FIG. 44